# THE CULTIVATOR.

THIRD — To Improve the Soil and the Mind. — SERIES

VOL. VII. — ALBANY, AUGUST, 1859. — No. VIII.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS.
ASSOCIATE ED., J. J. THOMAS, UNION SPRINGS, N. Y.

PRICE FIFTY CENTS A YEAR.



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## Manuring the Wheat Crop.

In the palmy days of wheat-growing in Western and Central New-York, the application of active manures directly to this crop was not generally practiced. The opinion widely prevailed that such a course was injurious, by stimulating a heavy growth of straw at the expense of the grain, and in the rankness and succulency of the former, increasing the liability to lodge, and tending also to produce rust and mildew in the standing grain. In some instances, no doubt, high manuring has been followed by such results, but in many more, large crops of wheat have rewarded the application. We took occasion some eight years ago, to urge the subject upon the attention of our brother farmers, and the current of events influencing the wheat crop during that time, has brought it far more forcibly upon their attention.

We throw away our seed and labor, now-a-days, in sowing any but *rich*, warm, quick soils to wheat. We must get a large growth of healthy, early maturing plants, or the wheat midge will destroy the whole product. This we have urged in a former article, and will revert more strictly to the subject indicated in our heading.

Of all grains, says chemical analysis, wheat has in it more nitrogenous substances than any other. Fifteen per cent. of the organic matter of the grain of wheat belongs to this class. Although the straw may grow luxuriantly, the *grain* cannot be formed without it. "Up to the formation of the kernels," says a writer on this subject, "ordinary soils, with rain, dew, and air, can furnish and grow the wheat plant. But when it comes to the fruiting part, the plant has to seek in the soil for materials out of which to fabricate its seed. It is necessary, therefore, that there be in such soil what we farmers call nutritive or putrescent manure—something out of which *nitrogen* can be formed." This is furnished in barn-yard manure, and other fertilizers of like character. These in a partially decomposed state, (and hence furnishing almost immediately nutriment for the crop,) we would apply to favorable soils before sowing them with wheat.

Many farmers have been in the habit of applying their stock of yard manure in a green or long state in the spring, to land intended for corn; reserving little or none for composting, or for application to the wheat crop. But this practice is becoming less general, and we now find frequently those who prefer keeping the manure in the yard until well decomposed, and then placing it in heaps for use the next season; applying it also upon winter grain, if they sow it, and as a top-dressing for grass land. This course is usually very successful. Though land heavily manured for corn, will produce good crops of wheat or barley following, it is seldom that the area which may be so manured and devoted to corn, embraces half the extent we desire for growing grain, or which would produce it if enriched sufficiently. Hence we see that we need more manure, as well as to study the most effective application of the same.

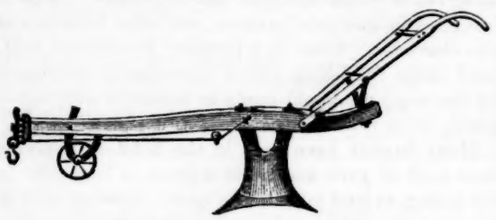
More manure may be had by composting that obtained from our farm stock with vegetable mould—the muck of swamps and marshes—the turf and wash of roads—the scrapings of ponds and ditches. We have doubled the amount and value of our yard manure by mixing it with muck from the swamp, and fermenting the same together in heaps loosely laid up and properly moistened. This was used at the rate of twelve loads per acre on land sown to wheat last autumn, being merely gang-plowed in before sowing. A small plot not dressed, shows a very marked difference—the growth is less than half of that on the manured portion, and the product will be of little if any value.

We hope the lesson of the past few years will not be lost on those who begin, after all, to think the wheat midge less the enemy of the farmer than his own improvident course in cropping with this grain. If it shall induce us to a better enriching and cultivation of the soil, and a more careful study of the nature and demands of our different crops, it will prove to the country at large a blessing and not a curse. If it leads the mass of farmers, as it has many of them, to employ every available means of increasing the quantity and quality of the manure made upon their farms, and to study attentively the most effective application of the same for

growing the most profitable crops, it will do more for the advancement of agriculture, than almost any other means which are likely to be employed. We would urge, therefore, immediate attention to the preparation of manure for applying to the wheat crop, and from our own experience and observation, think that composted manure, mixed with the surface soil by harrowing or very shallow plowing, will prove of the greatest benefit to the crop. This method is practiced by the most successful wheat-growers of the present day.

### Subsoiling and Ditching Plows.

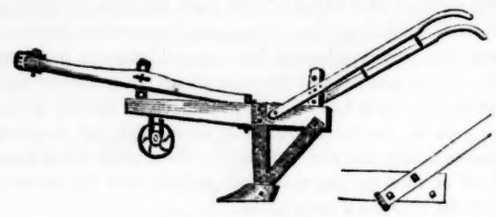
A correspondent inquires for the best subsoil plow. We have recently made trial of one manufactured by HOLMES, STRINGER & Co., of Munnsville, Madison Co., N. Y., which has answered an excellent purpose. The principle is not entirely new, but the quality of the materials and the finish, render it one of the best of the



*Holmes and Stringer's Subsoil Plow.*

kind we have met with. The above figure is a fair representation of its appearance. The cast iron blade, when it becomes worn, may be reversed and used as much longer. We have used this plow with two horses, following in a furrow made nine inches deep by a three-horse team. The subsoil plow loosened up the bottom of this furrow from seven to eight inches deeper, making the whole loosened depth from the top of the sod or land-side, about sixteen inches, and over twenty inches if measured from the top of the inverted sod. The soil was a strong loam, nearly free from stone; in harder and more strong land the depth would be less.

Where the soil is quite stony, we have not found this subsoil plow to succeed so well as the *ditching plow*, used as a subsoiler, which passes under and loosens up stones with much efficiency. The annexed figure shows one of the best forms of this plow. Although



*Subsoiler and Ditcher.*

light, it is so strongly braced as to secure it against breakage unless by the most careless usage. The depth may be regulated by raising the movable beam up the stiff, upright cast iron stem, a slot being made in the beam to meet the change of place by the circular movement. A similar provision is made for raising or depressing the handles, except that three holes are made for the bolt at different heights, and the stem is of wood. Where the depth to be run does not exceed three feet, the handles may be varied without the stem, as shown in the small portion of the beam on the right of the figure.

If this plow were intended for subsoiling only, there need be but one continuous and fixed beam, and the handles need not vary in height.

When used for ditching, it loosens up the subsoil and obviates the use of the pick. In many places the subsoil is so hard that two-thirds or three-fourths of the whole labor is required to loosen it if done by hand. Hence the great saving by the use of horse labor. This plow is drawn by two horses attached to the ends of a main whipple-tree about seven feet long, so that one may walk on each side. From one to three times passing will loosen up five or six inches of earth, which is then thrown out by hand with narrow shovels constructed for this purpose. The same process is then repeated. The earth being thrown out on both sides alike, is easily returned to the ditch after the tile is laid, by means of a common plow, the horses being attached to the long whipple-tree as before One pair of horses will thus fill in about one mile in a day. Where the ground is stony, one man man should be employed with a crowbar or pick in removing them.

Where the subsoil possesses great hardness, the work should be done early in summer, while yet softened with moisture. Drains which have cost thirty to thirty-five cents per rod when dug wholly by hand, have been completed with the assistance of this implement, ready for the tile, at a cost of ten to twelve cents.

### Discharge of Drains.

In reply to H. K. H., Columbus, Geo. The proper discharge of drains is a very important subject, and should be well understood. The man who drains ten acres of land with tile, does not wish to lose all his labor for want of a discharge for the water. Our correspondent wishes us to tell him how to drain a 40 acre meadow, which has no place where three feet ditches can discharge. But this is an impossibility, because water will not run up hill. It would be as unwise to commence draining a piece of land with no place for the water to flow off, as it would be to undertake to build a house without a foot of ground on which to place it. The first of all, therefore, is to secure a discharge. If other owners occupy the ground below, an arrangement must be made with them; or if a deep ditch must be cut a long distance to receive the discharge of all the others, the labor must be performed as a matter of necessity. A well, cut in compact subsoil, and filled with stones will not answer. A dozen tiles or more running full of water, as they would in a wet time from 40 acres of meadow, would fill such a well in a few minutes, and then the benefit of the draining would be at an end. If a main drain, four feet deep, could be made to discharge by carrying a mile or two, it might be made with a large channel, say with five or six inch tile, and would receive and convey away the contents of many smaller ditches. An *open* drain, four feet deep, would require to be at least 12 feet wide to prevent the banks from sliding in.

Our correspondent inquires if "level clayey lands, that absorb and hold water, can be drained into such a well, where there is no place for the outflowing of the surplus water; or is it to be understood that the tube of tiles, or the hollow therein, is to receive the water from the soil above, and in the course of time the same to sink into the earth at the lowest end of the tiles without any *positive outlet*." He will perceive by reflection, that if the water, already at those lower places,

does not soon sink into the soil and settle away, that this result cannot take place when a hundred times as great a flooding is poured upon it from a long line of tile. When a forty acre lot is saturated with water, amounting in the aggregate to at least fifty thousand surplus hogsheads, it must all pass off slowly by evaporation, and by creeping drop by drop from particle to particle of soil, till all has found its way to the lower side and escaped. The object of tiles is to provide straight, smooth channels, through which two inch currents may sweep freely and rapidly, and be only a few minutes in passing the breadth of the field, instead of as many weeks without this provision. But these channels, to be of use, must have a free discharge. We cannot give any general rule applicable to the ten thousand different circumstances which exist throughout the country; but each land-owner must examine for himself, and provide such discharge as facilities afford and circumstances require.

## Answers to Inquiries.

INSECTS.—Enclosed I send you a pair of the curculios that destroy the apple. I have a young orchard just coming into bearing; the apples have every one been punctured by this insect, so that they wither and fall by the first of July. There is not at this time one to be found that is not bitten by it. These I conclude are male and female, from the different color and appearance of the head. They were just caught by the fingers on the apple, with proboscis well in. Will you have some one that understands the insect tribe name it,—its habits, way of propagation, and the best way to destroy it? H. W. LESTER. *Rutland, Vt, June* 20.

The curculio is a small dull dark colored insect with a conspicuously long beak, formed in part of its elongated thorax, and the whole not larger than a grain of wheat. The insects sent by our correspondent, were more than twice as large; and although, as usually happens in such cases, when merely folded in paper and not enclosed in a box, much crushed and broken, they evidently belonged to quite distinct genera, not only from the curculio, but from each other. One was a snapping beetle or *Elater*, as was evident from its peculiar form and from the short snapping-peg between its forelegs; and the other appeared to be one of the *Lampyras* or fire-fly family, although not a fire-fly. The elaters ars commonly somewhat voracious insects, and sometimes attack fruit; we do not know that the Lampyras is as much so. We are inclined to think that the injury to the young apples may have been caused by some other insect, but we cannot judge with any degree of satisfaction without seeing the operation and the injured specimens.

Insects, to be sent by mail, should always be enclosed in a box, otherwise they will be almost certain to be crushed.

APPLES.—Can you tell me the best apples for cultivation in this locality? H. *Richmond, Maine.*

Red Astrachan, Sweet Bough, Sops of Wine, Duchess of Oldenburgh, Porter, Gravenstein, Golden Sweet, Fameuse, Hubbardston Nonesuch, Baldwin, Rhode Island Greening, Roxbury Russet, Ribston Pippin, Northern Sweet, Danvers Sweet, and Mother. Perhaps a few others might be added of fruits of more local character.

LAWNS—BLACKBERRIES.—If I top-dress my lawn in the fall with barn-yard manure, red clover will come in next spring. Will it not root out the finer grasses, or will frequent mowing root it out? When and how must I trim my blackberries? Please answer through Co. Gent., and oblige one if not many subscribers. R FRANKLIN. *Godwinville, N. J.*

Red clover is poor for a lawn and white clover one of the best. The former will not grow without seeds, and if none are in the compost, our correspondent need not fear it. After the seed of the red clover are sown and the plants grow, they usually continue but two or three years, other grasses replacing them. Brief directions for pruning the blackberry will be found on p. 398 of the Country Gentleman, vol. xiii.

## Blight on the Pear Tree.

At the late meeting of the Fruit Grower's Society of Western New-York, Dr. SPENCE of Yates Co., exhibited several specimens of dead trees, about three inches in diameter, where the bark near the ground, and of the roots more especially, was first affected, and then the rest of the tree followed, and certain death was always the result. W. TOWNSEND and others had met with the same disease. No one could assign a reason why the blight should first attack the root, or any other part. The soil was fertile, with a gravelly subsoil, and was so well drained naturally, that a mill-stream would disappear upon it within a space of four rods. Another member had met with similar losses, with trees standing over a drain, the soil being clayey. The President, B. HODGE of Buffalo, had lost trees by the same disease, but they had stood on rather heavy wet land, and he ascribed the disaster to the surplus water. T. G. YEOMANS of Wayne county, had found the same result with his standard trees, (which had not succeeded so well as dwarfs,) and he was of opinion that much land regarded commonly by the owners as dry enough, had still a superabundant supply of water. S. H. AINSWORTH observed that the roots in these dead specimens had no descending or tap roots, and that he had lost trees by the same disease, in those localities or soils that favored the horizontal course of the roots; but where the roots extended downwards, he had lost none. He, as well as T. G. Yeomans and others, thought that as the surface water could not escape while the ground below was frozen early in spring, that freezing and thawing at this period while flooded with water had produced the fatal result.

## Sheep Shearing Festival.

A public sheep-shearing took place at the residence of Gen. J. S. GOE, near Brownsville, Pa., May 26, at which JAMES HIGENBOTHEM was chosen President, and WILLIAM DUNCAN Secretary. Resolves were passed expressive of the industry and energy of Gen. GOE in breeding stock, and of the excellency of his flock. We give a summary of the number sheared, as furnished by the committee under whose superintendence the shearing took place:

2 French Merino Ewes, washed, average of fleeces 8 pounds 4 ounces.

8 French Merino Ewes, unwashed, average of fleeces, 10 lbs. 2 oz.

1 French Merino Buck, unwashed, weight of fleece 22 lbs. 2 oz.

1 Silesian Merino Buck, unwashed, weight of fleece 16 lbs. 6 oz.

3 Silesian Merino Ewes, unwashed, average of fleeces, 7 lbs.

4 Silesian Merino Ewes, washed, average of fleeces 3 lbs. 7 oz.

4 Spanish Merino Bucks, unwashed, average of fleeces, 12 lbs. 2 oz.

8 Spanish Merino Ewes, unwashed, average of fleeces, 8 lbs. 7 oz.

50 Spanish Merino Ewes, washed, average of fleeces, 5 lbs.

## Wheat—Time of Harvesting.

The increased attention given to the culture of wheat, warrants us in recalling farmers to the subject of the best time of harvesting the same, taking into consideration the maturity of the crop, and the uses to which it is applied; and giving the results of a variety of experiments showing the influence of early cutting on the quantity and quality of the grain. The question is not a new one, nor shall we attempt to present new information upon it.

Many experiments in cutting wheat at different periods of ripening, go to show that from twelve to fourteen days before "dead ripe," gives the plumpest, heaviest, thinnest skinned, and most nutritive grain. The loss in weight by standing is nearly 15 per cent, and the loss in equal weights by the increase of bran, is about 4 per cent. At this period the grain is in the milk; "there is," says the late Prof. NORTON, "but little woody fibre; nearly everything is starch, gluten, sugar, etc., with a large per centage of water. If cut then the proportion of woody fibre is still small: but as the grain ripens the thickness of the skin rapidly increases, woody fibre being formed at the expense of the starch and sugar; these must obviously diminish in a corresponding degree, the quality of the grain being of course injured."

Early cutting is well known to enhance to a considerable extent, the value of the straw as food for animals. The experiments show about the same per cent increase in this as in the grain. The philosophy of this was shown in our recent article on "Hay and Hay-Making," in which the period of its greatest nutritive power was shown to be some time before ripening its seed. The value of wheat straw depends upon the observance of the same law, and thus it is seen that the time of harvesting, which best secures the value of both grain and straw very nearly coincides.

A saving of grain is made by early harvesting, from the fact that waste from shelling is avoided. This loss is often large in fully ripe wheat, and it is a loss no caution can avert with ripe grain. The loss from rust, also, will in most cases be thus prevented. This disease generally makes its appearance at about that stage of growth recommended for cutting the grain, and whenever it does appear, its injuries can at once be checked by harvesting.

Early harvesting allows more time for the work, so that the business of securing the crop is not crowded into a few days, in which it must be accomplished or serious loss result from over ripening and shelling, and if the weather is bad, from growing in the ear.

The proper maturity for cutting may be judged of more accurately, perhaps, if described as that when the stalk immediately below the head, for two or three inches, becomes yellow and dry, consequently cutting off the circulation—and the grain, though soft and doughy, ceases to yield any milk upon pressure. This occurs about a fortnight before the seed becomes dead ripe, as before remarked.

In early harvesting, of course, greater attention must be given to the curing of the crop. It is advisable to allow it to lay for half a day or so in the swath before binding, and then small bundles should be made. It should be shocked up before dew falls, and will need to remain in the field for a longer time than if cut when fully ripe. Should no rain occur, (which can hardly be expected,) the common practice of setting up the sheaves in a double row, with the heads resting against each other, is simple and sufficient. Against heavy showers, however, this gives but little protection, nor is covering shocks formed in the same manner, with two sheaves laid on horizontally, the heads touching each other, a much better plan. The safest mode is to set up half a dozen sheaves in a round compact form, and cover them with two others broken in the middle, and laid on in the form of a cross, with the ends spread out, which affords a reliable cap for the shelter of the grain beneath from the usual storms of the season.

Of harvesting implements we shall not at present speak. The subject will no doubt be sufficiently agitated by those interested—the makers and users of these important inventions.

## Perfection.

It has long been a proverb, that "whatever is worth doing at all, is worth doing well," and the truth and force of this remark is clear to all. Young man, are you about starting in life—are you soon to launch your bark in any of the world's currents of business, resolve upon this: "Whatever occupation I engage in, or whatever business I undertake, the duties of that calling shall be performed *well!*" A resolution thus followed out in the every-day employments of life, will, with energy and perseverance, insure success.

In no department of human affairs, should we strive for greater perfection than in that of agriculture. We say, aim at perfection in whatever you undertake Are you a breeder of domestic stock of any kind? Secure the best and most perfect animals to rear from, and be not content in breeding a fair or a good specimen, but breed the *best*. So with other operations of the farm. Is a good or extra crop of any kind of grain to be grown? Be sure that you are the one to do it. The secret of reaching perfection in agriculture, lies in the fact that you do your work well. The farmer who goes over his fields in a careless and imperfect manner, cannot expect so good a result will follow his labor, as he who is diligent, and who performs his work well.

As a general thing farmers do not half prepare the ground before putting in a crop. They think it will not pay, or are in such a hurry to plant the crop that they cannot stop to do it. Here they not only show great ignorance, but a want of that which is for their best interest. Suppose a farmer, by doing three day's extra work on an acre of land, in order to get it in as fine a tilth as possible, should, by the means, raise an extra crop of grain or roots; would not the extra amount more than compensate him for his labor, besides the improved condition of the soil. And another thing in which farmers act unwisely, is in *trying* to go over too much ground. This evil has been alluded to in previous volumes of the COUNTRY GENTLEMAN, and we will not enlarge upon it here.

There is such a thing as perfection in every branch of agriculture, and our farmers should not stop till this point has been reached. Says one man, "the corn crop has been a study with me for fifteen years, and I just begin to find out how little I know of it." We believe that this thorough study, together with the principle of doing well whatever is done, will ultimately lead to a perfect system of agriculture.

## Economy of Fodder—Saving Hay.

Not a very seasonable topic, the reader may think, but still not out of time in the light we propose to look upon it. Last winter, (Co. Gent. Feb. 17, 1859,) we spoke of "managing it right" to make the winter store of forage go as far as possible, by feeding without waste, and by providing shelter, &c., for the comfort of our stock—now we propose to offer a few remarks on cutting, curing, and storing the same, with a view to the best economy of its value.

With many of our readers, the hay crop of the present year will be a short one—the season having been less favorable to the growth of grass than usual in many localities. So we must save what there is—save it closely and carefully—at the proper time. In a recent number, (Co. Gent. June 23, 1859,) will be found a carefully considered article on the best methods of making good hay—to which we would refer the interested reader. It is there shown that grass should be cut while a large share is yet in flower, and be cured in the shade—in the swath and cock—in order to secure its best nutritive qualities. It should neither be over-ripe nor over-cured, to form an article of winter fodder that will "spend well" and keep up the condition of the animals which consume it.

Meadows may be sometimes observed, in which no economy of fodder seems to have been thought of. A great deal of grass remains uncut—the fault generally of poor mowers, and a considerable share of that cut has been left in gathering, for want of better attention to raking. It is worth while this year, at least, to cut all our grass, and to rake clean what we have cut, and will cost but a trifle more in labor. A man who cannot learn to mow closely and evenly, should not be allowed to use the scythe, and the farmer who hurries so fast as to leave gaps enough unraked to pay another hand, should slack his unthrifty rate of speed for one savoring of a better economy.

In stacking hay, large losses are often incurred by small stacks with a good deal of surface exposure, and by ill built stacks, which fail to secure the hay from the weather. For stacking, hay needs to be well cured; then, should heavy rains occur, the stack, if well built, will settle firmly, and the moisture on the outside will not combine with that within to spoil the hay before it can dry again. We have known instances in which this occurred—in which hay sufficiently dry for the barn became almost entirely spoiled by a driving rain falling upon the stack soon after its completion. Large stacks should be the rule for out-door storage, in all cases in which barn room cannot be given.

To hay of inferior quality it is well to add a sprinkling of salt occasionally, when mowing away, as it will increase its palatableness for stock, and the same "seasoning" should be given to all hay which we have reason to think insufficiently dry for storing. This furnishes one of the most convenient methods of supplying salt to stock during the winter season, and is very generally practiced by provident farmers. It is said that a mixture of salt and lime, sprinkled freely over hay, will enable one to store it away with less curing than would otherwise be safe, and that fodder treated in this manner is much liked by catttle, &c., and that the mixture promotes the health and thrift of all stock kept upon it. Of this we have had no personal experience.

Economy of fodder, every year, leads some farmers to cut the grass along the fences in their grain fields, and all out-of-the-way spots producing grass not otherwise brought into service. It is a good plan, not only only on this account, but as destructive of many weeds which otherwise soon give a "border-ruffian" appearance to our farms, and stock the whole neighborhood with troublesome occupants. We trust this matter will be attended to by every farmer, and with greater particularity this year than ever before.

No doubt the reader can see upon his own farm, chances for economizing in the matter of saving fodder beyond what we have pointed out. We hope no one will forget to finish up as he goes—not only cut all the grass he can, but cure it well and store it safely against the wants of the coming winter.

## Eradication of Thistles and Mustard.

Eds. Co Gent.—Canada thistles and mustard, are, in my opinion, two of the farmer's greatest enemies in the weed line. For when they once get fairly established in the soil, it requires a great deal of perseverance and energy to eradicate them, and even with these requisites but few persons succeed. I have known farmers to plow and mow the thistle for years in succession, and the weed still thrived and grew wonderfully, thicker if anything than when they began operations—the simple cause being that they did not go at it in a proper manner. There is no doubt but what thistles can be destroyed by mowing. I entirely killed a patch of them once by mowing them for three seasons in succession, two or three times each season. Plowing I think, however, is more effective, as it causes all seeds which are in the soil to germinate. I do not approve however, of the manner in which this is commonly done. Farmers usually, in attempting to destroy the thistle, commence plowing as soon as it makes its appearance above the surface, and continue plowing as often as it appears. This is in the spring, when the soil is wet and everything in growing order. The severed portion of the plant not only grows, sending up perhaps two or three new ones, but the root which remains in the ground, being young and tender, sprouts out, making two or three more new plants. My plan is to wait till the thistle is in blossom, which will be some time in June. The stock and root are then hollow. Begin plowing in a very dry time—a drouth if possible—plow deep and carefully. Be sure that you cut every root off. Then harrow once or twice. This will bring the thistles to the surface, where they will soon wilt and die. There will be but a few straggling thistles that will survive. Allow these to get ready for blossoming again, which will be some time in August. Plow these again as before. Let your land lay till another season, and then summer fallow for wheat. This, nine cases out of ten, will entirely destroy the thistle. If any come up in the wheat however, they should be carefully pulled out. This can be done in a wet time, with a common mitten on the hand.

The best plan that I know of for getting rid of mustard, is to plant corn for two or three seasons in succession, hoeing it carefully each season. If any mustard comes up after hoeing the last time, it should be carefully pulled out by hand, allowing no seed to ripen. Then summer fallow and sow to wheat, and seed down. Winter wheat is better than any other crop, as the mustard, if there is any left, will come up in the fall and winter-kill. If any comes up in the spring, weed it out by hand. This course, if carefully followed, will use up mustard in a short time. E. A. King.
*King's Ferry, Cayuga Co.*

## Recent Rural Publications.

I.—COUNTRY LIFE: A Handbook of Agriculture, Horticulture, and Landscape Gardening. By R. MORRIS COPELAND. Boston: JOHN P. JEWETT & Co. 8vo. pp. 813.

This work, which has been advertised in our pages, is just published, and must meet with a hearty welcome from the thousand lovers of rural life in every part of the country. It embraces the whole range of topics treated, in a competent and practical manner. It is an Encyclopedia of all farm and garden operations, pointing out the several methods of performing every item, in its proper season. Rose Culture, Management of the Hot-House, the description of Flowers, Plants, and Shrubs, and their care; Landscape Gardening, with designs for laying out small plots of ground, or extensive estates.

Too much cannot be said in commendation of the manner in which it is issued. Binding, paper, printing, engraving—all are complete in their several ways, and harmonize through the whole. The paper is of snowy whiteness and of exquisite finish; and the engravings, from those of a full page down to the initial letter, are beautiful and elegant. As a whole, it is a very fine specimen of American book-making.

Two editions are issued. The first on heavier quality of paper and more expensive binding, at three dollars; and an edition on smaller paper at two dollars. The work contains 225 engravings, and the two editions are alike in every respect, but that of paper and binding. Both are for sale at this office.

On a more careful and extended examination of this work, we shall give a full and complete review another time.

II—PLAIN AND PLEASANT TALK ABOUT FRUITS, FLOWERS, AND FARMING. By HENRY WARD BEECHER. New York: Derby & Jackson, and A. O. Moore & Co. 12 mo. pp. 420.

Probably there are few of our readers who are acquainted with the fact, that to the eminent qualities of Henry Ward Beecher, belonged that of a practical farmer, and an agricultural editor. Twenty years ago the author was residing in Indiana, and when there conducted the agricultural department of the *Indiana Journal*, and it was issued each month from that paper as the *Western Farmer and Gardener*. The articles in the volume before us, consist of those written by Mr. BEECHER for that publication, and now collected in the volume bearing the pleasant and happy title at the head of this article.

Although written several years ago, the work has an interest and charm, seldom possessed by agricultural publications; for what theme touched by the pen of HENRY WARD BEECHER, does not assume a greater and more lasting value? Cowper wrote a beautiful poem on the "Heel of a Shoe," and it is said of Dean Swit, that he could write charmingly about a broom-stick. So the common-place and every-day topics of the farmer's life give BEECHER an opportunity for the display of his originality and vividness of expression and simple beauty of style. He talks of the improvements in the breeds of cattle; the theory of manures; the raising of fruit; the culture of wheat, and of every topic connected with farm, garden, orchard, lawn, green-house, &c., in a way which shows at once that he is master of the theme. There is in the work a great deal of wisdom and practical common sense; a great deal of sound morals and deep philosophy; a large share of wit and originality, and an abundance of pleasant and entertaining talk about Farming, Flowers and Fruit. For sale by all booksellers.

THE AMERICAN HERD BOOK: Containing Pedigrees of Short-Horn Cattle; with Introductory Notes. By LEWIS F. ALLEN.

The fourth volume of this work is just published, and we have received a copy from the author. It forms an 8vo. volume of 600 pages, and contains pedigrees of nearly three thousand Short-Horns; and of that number 1,153 are bulls, the remainder being cows. At the present ratio of increase in our herds, it will be but a few years before an annual volume will be required. It is understood that American pedigrees are no longer received for record by the compiler of the English Herd Book, therefore they must be published in an American one, or not at all. Many English breeders have sent here for copies of our Herd Book, thus showing their interest in the progress of our Short-Horns.

NEW EDITION OF DR. HARRISS' WORK ON INSECTS.—At the last session of the Massachusetts Legislature, resolves were passed giving authority to the Secretary of the Board of Agriculture, to obtain from the legal representatives of the late Thaddeus W. Harris, M. D., the right to print an edition of not more than 2,500 copies, of his Report on the Insects of New-England injurious to vegetation, and make suitable additions and alterations to the work. For this, the Legislature appropriated $8,000. Mr. FLINT is now prosecuting his labors under the resolves, aided by several valuable assistants. Prof. AGASSIZ has evinced much interest in the work, and made valuable contributions to it in drawings and otherwise. It is designed by Mr. FLINT to make this work specially valuable to the agriculturists of New-England, by means of full and copious elucidations of the habits of insects injurious to vegetation.

## Plowing in Green Crops.

J. L. B., who wishes information on this subject, is informed that the practice of plowing in green crops does not rest on theory merely. It has been adopted by many practical farmers to great benefit, as a part of an enriching course of rotation; and where a supply of stable manure could not be obtained, or where the distance to draw it, or steep hills, rendered its conveyance too expensive, green crops have proved a most economical auxiliary. We would not however, recommend it alone, but in connection with the application of more or less stable manure, with a proper quantity of lime, plaster, ashes, &c. The objection that it is not in accordance with the "intention of nature," who furnishes vegetables as the food of animals, and the excretions or remains of animals as again the food of plants, we think hardly tenable as an exclusive rule; for some of the finest natural soils are those on which a large quantity of vegetable growth has decayed and furnished enriching materials. We can *improve* this natural process, by first selecting such vegetables as are best for this purpose, and then promoting their rapid decay by mixing with moist earth, adding animal manure to improve the whole.

## Seeding Cornfields to Grass.

A correspondent of the *Rural New-Yorker*, gives his "experience in seeding one season," to the following purpose:—He planted eight acres of corn on land manured the fall previous, thirty loads to the acre—hills four feet apart, culture, level—hoed the last time the second week in July, and sowed on a peck to the acre of grass seed, husked early on the hill, and then turned the cows in. The green feed and stalks lasted until November, greatly increasing the quantity of milk and the flesh of the cows. The next spring he cut the standing stalks close to the ground, in one day, with a corn cutter. This piece yielded the largest crops, and continued to produce well the longest of any he ever seeded, out of over a hundred acres stocked down with oats and wheat in the spring. The locality should have been given, as well as the number of cows kept upon the field. The facts stated confirm what we have repeatedly urged—that "land in good heart" was much the most profitable for seeding to grass—and that it is folly to expect good meadows from fields "run" with grain as long as they will bear it before seeding.

## Modes of Draining—III.

Having discussed the "advantages of draining," it may be of service to discuss also the modes of performing it. I need hardly say that different modes have been adopted, and with different degrees of success; but that generally regarded as the most efficient and economical for wet, clayey land, is what is termed *frequent* or *thorough* drainage. This consists in constructing drains from two and a half to four feet below the surface, and about sixteen feet apart, with a gentle fall, so as to carry off any surplus water which may accumulate.

*Deep* drainage was first introduced, and for a time was practiced to the exclusion of all other, if we except mere surface drainage. It consisted in laying drains some six feet below the surface, and from forty to sixty feet apart. For springy lands this mode has its advantages, but for ordinary uplands, which are likely to be benefitted by draining, it is not the plan now most approved. As remarked, for lands of this description, *frequent* or *thorough* drainage is found most beneficial. In conducting the work, numerous drains are opened in close proximity, and of the requisite depth, at the bottom of which are placed drain tile, stone, or other material, so as to leave an aperture for the water to pass after the ditch is refilled.

Of all the material used, drain-tile is to be preferred when it can be obtained at a reasonable cost. In England it is almost the only material used in the construction of drains, and is found to be the most economical and serviceable for all ordinary purposes.

In this country its use has not become sufficiently extensive to encourage very numerous manufactories, and its price, and the expense of transportation, often render its use questionable, as a matter of economy, where stone can be readily obtained. But the materials at hand, the question then arises, "how deep shall the drain be made?" I have stated that in "thorough drainage" the practice varies; but I think the more common opinion is that it ought to be not much less than 3 feet deep. This much is manifest, it ought to be so low as not to be disturbed by deep tillage, or affected by frosts. If tiles are used, frequent freezing and thawing will cause them to crumble, and the drain will become useless. Besides, shallow drains often become obstructed with the roots of vegetable growth, and thus the water is thrown back into the land.

Drains 4 feet below the surface meet with their main objection in the cost of construction; the last foot of the four, often costing as much as the first three, so far as excavation is concerned.

Another circumstance should be mentioned in this connection. It is, that additional depth will not compensate for increased distance between drains. Experiments have shown that 4 feet drains 27 feet apart do not operate as well as 3 feet drains 16 feet apart. In the former case the land at the extremity between the drains often remains too wet, and consequently crops do not thrive as well as on their borders; whereas, the 3 feet draining, in close proximity, gives a uniformity to the degree of moisture over the whole surface, and an evenness of crops is the result.

I am here reminded of the answer I have often received to the question: "Do you drain your land?" "Oh yes," says the interrogated. "I dug a ditch 40 rods long, and 2½ feet deep through a ten acre lot, filled it half full of cobble stone, and covered it over, but I don't see as it did a bit of good, except just along the sides of the ditch. On the whole, I don't see as ditching does much good."

Such are the conclusions at which many of our farmers arrive, from practices such as that above described. But let them adopt the system of "thorough drainage," which it has been the object of this paper to discuss, and I marvel if they do not come to widely different conclusions from those reached by having laid a single drain through a wet ten acre lot. R.

## Advantages of Irrigation.

MESSRS. EDITORS—The following is translated from Dr. GIRARDIN and DU BREUIL, on irrigation:

Vegetation cannot put forth a rapid and vigorous growth unless constantly supplied with a certain amount of moisture from the soil, for this favors the process of germination, hastens the decomposition of manure, and serves to convey the elements which nourish the plant, to its roots; and finally, renders the soil so porous that the air and young roots can easily penetrate it.

The greatest drought occurs during the summer, and this time is the most dangerous, because then the plant has the greatest need of absorbing watery substances through the roots, in order to replace and supply the loss occasioned by the evaporation going on so rapidly in its leaves.

Wherever systematic irrigation has been for a long time practiced, the beneficial effects produced in the nature of the soil—indeed the appearance and productiveness of a whole region of country, is observed to be changed.

All waters, even the purest, deposit, especially during heavy rains, a portion of costly manures, as slime or mud, and retain certain soluble salts in solution, as magnesia, lime, gypsum, potash, &c., which, during irrigation are transferred to the soil, whose properties are by these means improved. In addition to the substances already introduced, come the gases—carbonic acid and ammonia, which, combining with the former, repreresent all the elements necessary for a vigorous growth of vegetation; and therefore it is evident that all of the effects produced by manure may be replaced by irrigation.

Concerning its importance, Bousingault very correctly said, particularly in reference to meadows—"if a field is not of itself rich enough to render a copious supply of manure unnecessary, it can never be profitably cultivated for a great length of time unless in connection with a meadow." Or, in a word, and on the previous supposition that the soil does not possess a sufficient quantity of inorganic substances to supply directly, without the use of manure, the alkaline and earthy salts to the soil, which have become exhausted through continued cultivation, something must be expended every year in replacing the elements carried off by the previous crop. For this reason are lands flowed and enriched by streams, the only ones which allow of a continual exportation of their products without suffering deterioration.

To such belongs the valley of the Nile, and it would be difficult to form an idea of the immense quantity of phosphoric acid, magnesia and potash annually carried out of Egypt in grain.

Irrigation is without doubt the most simple and economical means of increasing the fertility of a field conveniently situated, because it affords fodder in abundance, and in consequence a good supply of manure. The mineral and organic substances which the water often contains in such minute quantities as to escape entirely analysis, are discovered by the plant and taken into its organism, just as they absorb those gaseous elements which are diffused in the atmosphere in a quantity not exceeding a few ten thousandths, at the same time transforming and condensing them.

In this manner the plant gathers to itself and gives a new form to those substances, which, being dissolved in water, are diffused through the soil and air in order to facilitate their reception and appropriation by animals.

Nothing further is necessary to explain the advantages of irrigation; but to derive the most profit from it certain conditions must be fulfilled, which at some future time we will endeavor to illustrate.

I send the above as an introduction to a few articles on irrigation. S. K. SMITH. *Stockholm Depot.*

## How Drouth Benefits the Soil.

"Dry and hot! Hot and dry! How much everything suffers for the want of rain!" exclaims the farmer, as the empty clouds melt, day after day, from his sight. And it is a sad scene now presented in many places in the country. We need not recall it for our readers—we would rather invite them to a brighter side of the picture. That seasons of drouth—so often occurring, and so injurious to our summer crops—should still prove beneficial to the soil, seems strange, but chemical science shows us that drouths are one of the material causes to restore the constituents of crops, and renovate long cultivated soils. The "why and wherefore" of this, we may here reproduce, condensed from a paper by Prof. HIGGINS, Chemist of the State Ag. Society of Maryland.

The loss of mineral matter from the soil, results from the fact that it is taken up by growing crops, and also carried away by the surface water flowing into streams, and thence into the sea. These two causes are always in operation, and were there no sources of supply, would in time render the earth a barren waste. The diminution which arises from continued cropping, is in part restored by manures, and the same is true of the constituents washed from the soil by surface drainage; but this supply is small, uncertain, and of limited application, and Providence has provided natural means to restore lost mineral constituents to our arable land. At intervals, drouths occur to bring up from the deeper undersoil, food for the use of plants when the rains shall again fall to dissolve and bring them into action.

A drouth acts upon the moisture in the earth as follows: During dry weather, a continual evaporation takes place from the surface soil, above that supplied by rain and dew, which creates a vacuum (so far as the water in the surface soil is concerned,) that is at once filled by water rising from the subsoil—extending deeper and deeper as the drouth continues and the moisture is exhaled—a circulation of water in the earth the reverse of that which takes place in wet weather. This progress to the surface of the water in the earth, manifests itself strikingly in the drying up of springs and wells, and streams which are supported by springs.

Not only is water thus brought to the surface of the earth, but also all that the water holds in solution. There are salts of lime and magnesia, of potash and soda, or indeed whatever the subsoil or top strata of the earth may contain. The water on reaching the surface is evaporated, but leaves behind its lime and potash, its phosphates, silicates, carbonates, and salts—all indispensable to the growth of the vegetable products of the farm. Rain water, as it falls, will dissolve but a very small portion of some of those substances; but when it sinks into the earth, it then becomes strongly imbued with carbonic acid from the decomposition of vegetable matter in the soil, and thus acquires the property of readily dissolving minerals on which before it could have little effect.

Several experiments tried by Prof. HIGGINS, go to show this action of drouth in bringing mineral matters from a depth to the surface of the soil. In one case he placed a solution of chloride of barium in the bottom of a glass cylinder, and then filled it with dry soil. After long exposure to the rays of the sun, the surface of the soil was tested with sulphuric acid, and gave a copious preciptate of sulphate of baryta Chloride of lime, sulphate of soda, and carbonate of potash, were experimented upon in like manner, and upon the application of proper tests, the surface of the soil showed their presence in large quantities, drawn up by the rising of water from underneath, as in the case of drouth.

The parched earth—all vegetation dwarfed and withered by the heat—seems suffering under a curse, but it is only an affliction for the present—"a blessing in disguise" for the future. "The early and latter rain," may produce at once abundant crops, but dry weather is needed to bring to the surface from the depths of the earth, where else it would be forever unemployed, food for future harvests. It is Nature's ordinance for keeping up the fertility of the cultivated soil.

## Remedy for the Wheat Midge.

EDS. CULTIVATOR AND CO. GENT.—The all-absorbing topic just now, is the midge, on which I wish to address a few words to your numerous readers. The fly makes its appearance here about the 17th or 20th of June, in countless numbers. It may be seen early of a morning, or towards the close of evening, on every ear of wheat. They deposit a quantity of infinitessimal eggs, of a dark orange color. A few days suffices to bring them to maturity if the weather is warm. The maggot or small worm at once commences its ravages. (Under a powerful microscope I cannot discover it has any legs.)

The question now for our solution is—Is there no way to get rid of this pest? I believe there is, and if I am right and many of your agricultural readers can soon judge for themselves, it will prove a greater source of wealth to the farmers than digging gold at Pike's Peak or California.

During a late residence in England of several years, I was often much annoyed by a neighboring farmer constantly using the gas lime procured fresh from the works, about four miles distant from his farm. I was aware he intended destruction to the insect tribe, but knew not the way it was applied, until the report of a meeting of the Royal Agricultural Society of England was forwarded to me, where Mr. FISHER HOBBS, one of England's pattern agriculturists, stated that for annihilating the turnip fly he used the following preparation: One bushel of gas lime or white gas ashes, fresh from the gas house, one bushel of lime from the kiln, six pounds of sulphur and ten pounds of soot, well mixed together, and got to as fine a powder as possible, so that it may adhere to the plant. The above is sufficient for two acres. It should be applied very early in the morning, when the dew is on the leaf. By this means 200 to 220 acres of Swedes have been grown on his farm annually for eight or nine years, without a rod of ground losing plants. The above is a strong dressing to be used when the fly is very troublesome, and has never failed when applied at night. The system, he adds, here recommended, is founded upon my own practice and experience.

The above, then, is my remedy for the midge, applied just as the ear makes its appearance, sown broadcast over the field. I am induced by the above results to conclude that by care and attention the wheat may be as effectually and as certainly freed from the ravages of the midge fly, as it has been for upwards of the last 20 years from smut and other destructive fungi in England. Farmers try it, and send your experience to the editor of the COUNTRY GENTLEMAN. GEORGE S. ROGERS. *Woodlands, Delaware, C. W., July* 8.

ALOES TO DESTROY BUGS.—A correspondent of the London *Cottage Gardener* recommends bitter aloes to destroy the aphis and other insects. The receipt is, to mix half an ounce of aloes with a gallon of warm water, and apply it to the infected plants by means of a syringe or watering can, and, he says, "before half an hour you will have clean plants." The correspondent states that he gave this application to his rose trees and cucumber plants last season, and it not only cleansed the plants at the time, but there was not one in all the season after; and it does not injure foilage in the least. It is also well known that a solution of aloes is fatal to the common bed-bug. As it is a cheap drug, we recommend its trial by our readers.

## The "Universal Plow."

MESSRS. EDITORS—In the Co. Gent of May 12, I made mention of the above named plow. Since that notice, I have received many inquiries, by letter and otherwise, respecting it. In my notice of the plow, May 12th, I stated that I had recently procured one, with a portion of its different mould-boards, which, when seperately used, are equivalent to some five or six different sized single or common plows, and also stated that I should give the plow a fair trial, and then report to the Co. Gent. the *result*, "without fear, favor or prejudice," and now attempt to redeem my pledge, by describing the plow I have, and its different mould-boards, and the team required, and the work it performs.

My plow is the invention of Col F. HOLBROOK, of Brattleboro, Vt, and this *fact* is a sufficient guaranty of its being a first rate implement; and I take the liberty of making a short extract from a letter recently received from Col. H., in which he says: "I have devoted a great deal of thought and practical experiment to the plow, and have at length studied up the 'Univeral Plow,' believing that any farm, to be rightly and thoroughly cultivated, needs a variety of forms and size of plows, and, therefore, that some more economical mode should be devised, by which our farmers may have this desirable variety within a reasonable expense, or rather should be able to procure the variety cheaper than by buying entire plows each time. You will easily reckon for yourself, that in the 'Universal Plow' a farmer, after procuring one plow complete, may at any time afterwards add, in effect, other forms and sizes he may wish, by simply buying a mould-board alone, and thus he is relieved of the greater expense of purchasing entire plows, and save himself the trouble of storage"

"I fancy that the 'Universal Plow,' in addition to combining a wide variety of work in one implement, also does an excellent quality of work in each size and kind respectively." I can safely vouch for the correctness of the above statement, as to the perfect manner in which the various mould-boards perform their work.

As a sod and subsoil plow, with a wheel, it works admirably, drawn by a yoke of oxen and one horse. For very deep plowing, a stronger team would be desirable. The share of the forward or skim-plow cuts wider than those of some other patterns I have seen; this, I think, is an improvement over the more narrow shares. The forward plow can be easily raised or lowered, to correspond with the desired depth of plowing; where the ground is level and smooth, I think the skim plow should not cut deeper than from two to three inches. The rear or large mould-board used as a double plow is numbered 152. By taking off the skim plow, and clasping the cutter to the beam, the plow then, with its mould-board 152, is the one used for plowing stubble and old ground. It can be worked at various depths, with a pair of horses or oxen; as such I have used it, and believe it the best stubble plow I have ever seen used. The form of the mold-board is peculiar and new, and gives a remarkable turn to the furrow slice, and buries the surface thoroughly, lightening up and leaving the inverted soil in the best possible condition.

By removing the mold-board 152, and putting on that numbered 122, we have a first rate greensward plow for intervale or other smooth land, for turning flat furrows, from five to eight inches deep, twelve to fourteen inches wide. This is for two horses or oxen, and not hard work for them either.

Take off mould-board 122, and replace with that marked 141; this is designed for plowing greensward on stoney and rough upland—team, two or three cattle. The turn of this mould-board is short, and broad on the bottom, to clear the stones from the furrows, and turns them handsomely, leaving a wide track for the off ox to travel in. It takes about three minutes to change the mould-boards.

Then there is mould-board 120 for intervale or other smooth grass land, for flat furrows. This mould-board is very long, with a corresponding shoe or land-side, and is intended to be drawn by four cattle, plowing from 7 to 10 inches deep, and from 14 to 16 wide. I have used this with ease, with a yoke of oxen and a horse, turning a furrow 16 inches wide, and 8 deep. The short land-side and mould board can be taken off and the longer land-side and mould-board put on "inside of six minutes" by the watch. I have only described the mould-boards, &c., that I have, but there are several others—twelve in the whole; some designed for rocky upland, others for plowing clay, and others stiff sod, lapping the furrow slices one upon another at an inclination of 45°, and two sizes of stubble mould-boards. But the whole accurately fitting one common standard and frame-work. The farmer can purchase as many or as few of the mould-boards as he chooses, and that farmer must be hard to please who cannot find in these dozen mould-boards one, or more, to meet his wants. All the plows I have described are cast-iron, but the manufacturers of the above plows, Messrs. Nourse, Mason & Co., of Boston, Mass, have also got up a series of the "Universal plow," made of steel, purposely designed for the prairie and other fine soils of the west, as from the fineness of the soil, and lack of flinty matter, the cast-iron plow clogs badly. Steel being a finer and less porous metal than cast-iron, and less affected by rust, and requiring much less friction to give it a high polish, is considered the more desirable material for the construction of the mould-board, share and land-side of plows for working such soils.

Every part of the "Universal Plow" is made of the best material, and finished in the most perfect manner, and the plowing done by the different mould-boards is of a superior quality. There has been a great amount of science, skill and mechanical ingenuity called into requisition in the construction of this plow and all its varied parts, and I can most cheerfully and disinterestedly recommend it to the favorable notice of my brother farmers who wish for a first rate plow—or rather a a series of plows at a moderate expense.

Any one wishing for farther information as to prices and form of plows and mould-boards, can doubtless obtain a catalogue of Messrs. Nourse, Mason & Co, by writting a letter to them, enclosing two or three three cent postage stamps. L. BARTLETT. *Warner, N. H.*

## Why I Like The Cultivator.

First. Because it is exclusively an agricultural paper.

Second. Because it is published in pamphlet form, and of a suitable size to stitch together when the volume is completed.

Third. A valuable index is added to each volume.

These three peculiarities make it a convenient means of storing away valuable agricultural matter, so as to be convenient for reference. I do not like too much reading on agricultural or any other subject, and for this reason I like THE CULTIVATOR better than other papers of its kind of a larger class. It is better to read a little and remember it, than to read a great deal, and forget the whole. Besides, in a large paper, many of the best articles would not be likely to be read at all. But the advantages The Cultivator offers for preserving valuable matter, it seems to me is of great importance. J. L. B.

MILKING HEIFERS.—A correspondent of the *Boston Cultivator*, states that he has for a number of years past, milked his heifers once a day for two weeks before their first calves, with the best of results.

## Fenceing at Home and Abroad.

HEIDELBERG, June 10, 1859.

MESSRS. EDITORS—One of the peculiarities which strike an American in traveling on the Continent, is the absence of fences.

For hundreds of miles here, he will not see a single field inclosed, and scarcely a yard or garden in all that distance, except it be in a city or town, and then generally with expensive stone walls.

Division lines are marked with cut stones, set at the corners and angles.

Up to these lines the occupiers on each side till and crop, without loss of ground or expense of fence.

Here every man takes care of his own, not his neighbor's cattle, and if any one chooses to pasture them, he does so by confining them in some way to his own ground. Many villages and towns, both in Switzerland and Germany, have a kind of public pasture and forest, to which its citizens have a right, for purposes of feeding cows To avail themselves most economically of these, the cows are generally collected in the morning by one, two, or more herdsmen—men, boys, women, or dogs—driven out, taken care of through the day, and returned at night. Nearly every one of these cows has a bell upon its neck, and it would seem as if each was of a different tone from any other. "The music of the cow bell," then, is no myth in Switzerland and Germany, and really it is very enlivening. Single cows are sometimes led out and fed for a while by the side of the road, or other places, always held by a halter, and kept within entitled limits. All these, however, are exceptions, for besides these, and such as are kept for a few weeks in the summer, on the high and otherwise unproductive slopes of the mountains, cattle on all the Continent are soiled, and not turned out to pasture as with us. When they are out, however, under any circumstances, there is always some body to take care of them, and it is perfectly amazing to see with what precision the herdman's dogs are trained to feed them up to, and only to, particular lines, whatever the temptation.

Sheep, on the Continent, wherever kept, and it is only in particular districts they are so, are always put out in the day time and confined at night. Like the cattle, when out they are always kept within bounds by a shepherd and his dogs Sometimes, in order to feed them close up to a railroad or a field of grain, a hurdle fence is temporarily placed along the line, but this is not often the case.

This absence of fences adds immensely to the beauty and impressiveness of the country, as it does to its productiveness; but more than all, and infinitely above all other considerations, to the enormous saving of expense, compared with our fences.

I think I have seen it stated on what I deemed to be good authority, that fences in our country cost as much as all the other buildings there. If this be so, and whether it is exactly so or not, it undoubtedly approximates the fact, seeing all these must be renewed many times to the other buildings once, and what an enormous sinking fund it is—what a draft upon the industry of the country. It is equal to the tax for a standing army here—to that to pay interest on the national debt of England.

If it should be said we cannot do entirely without fences, and that consequently all this could not be saved, so may it as well be said we cannot do entirely without barns, and therefore every man shall build half of one for his neighbors and a whole one for the public, and all this without regard to his own wants or convenience in such matters. The expense of hersdmen and shepherds with their dogs, is as nothing to the time consumed in building fences, to say nothing of material. We, Messrs. Editors, are undoubtedly *the people*, our country *the country*, and our laws *the laws;* but as "it is not all gold that shines," so it is not all dross which we do not look upon, and I can but think we have yet something to learn in this direction. Common law with us, requires a man to take care of his own family—why not of his own cattle, by fencing them in on his own land, or otherwise, as he chooses?

The roads here, which are themselves as perfect as art and stone can make them, seem to run directly through the fields of grain, meadows, gardens, &c., with nothing to indicate the line further than the eye can follow the bare track, between the green walls of growing crops, or, as is very commonly the case, long rows of magnificent chestnut, pine, mulberry, or Lombardy poplar trees. The border of these roads even, up to the very track of the wheel, are cultivated as highly, or as fancifully, as the case may be, as any other part of the field or garden. About the railroad station too, I notice (what traveler does not?) that every available foot of ground is made tributary to taste and skill in this way. All the grounds belonging to the company, on each side of the station-house, not absolutely required for the business of the road, is devoted to flowers and flowering shrubs. The outhouses frequently stand in the midst of these, and, as well as the windows and walls of all the buildings, are thus subsidized to taste and comfort.

It is difficult to realize what a cheerful, home-like feeling all this gives a traveler. The flowers are the same we have, and with the light and air, are an universal inheritance. We recognize our right here, and enter into possession of the enjoyment, paying our share of the expense, and so feel quite at home, but not as if on an American railroad. "Pity 'tis, 'tis so"

The banks of all these roads, (whether rail or common,) the excavations, fillings, and burrowing-pits, are as nicely formed and graded as the plots in our garden—are covered with rich mold, cultivated and cropped as are the other grounds. These are never destroyed by cattle running at large, as with us, on the common road; nor are they suffered to grow up to thistles and wild brush, as there. V Q.

## Chess once More.

NEAR GENEVA, 25th June, 1859.

MESSRS. EDITORS.—A neighbor of mine has part of a field sown with winter barley; the other part winter wheat. The part sown with barley has, I think, four times more chess on the land than barley, and there is no chess in the wheat. I could not find a single head of chess in the wheat, although I went round a good part of the field. I asked the owner if the barley was clear of chess when he sowed it. He said it had plenty in it when he got it; but he cleaned it all out. I then asked him how he accounted for it, being a full crop of chess with a little barley. He said he believed barley was subject to produce chess, as his son-in-law a few years ago sowed clean barley, and he had a great deal of chess too; and he believed it was subject to produce chess. The land that his barley is on, was worked in the same manner as that the wheat is on, only a little better.

Now, I would ask Mr. Clizbe how this comes, that there is certainly four times more chess than barley, and none among the wheat? Has the barley turned into chess, or did the owner not clean the chess out of his barley, or at least did he not leave enough among the barley to ruin the crop? The chess now stands from twenty to thirty inches higher than the barley, and the owner says it was much taller last fall, although he did not then know it was chess, and it choked the barley so that it was not worth the harvesting, while the chess is a beautiful crop; now, if Mr. Clizbe, or any of those obstinate transmutation gentlemen chooses to come and see this crop of chess with a little barley in it, and will write me when they will be at Geneva, I will meet them at the railroad station, bring them out, show them the field, keep them over night, and take them to the station next morning; and if that don't enlighten their understandings and dispel their prejudices, nothing else will. The owner of the field is a good honest farmer, a Pennsylvania German, who has been a neighbor to me ever since I lived here. If Mr. C., or any other man, chooses to come, if they don't find it as I have stated, I will pay their railroad fare here and back. JOHN JOHNSTON.

### Raising Balsams, Blackberries, Apples &c, from Seed.

MESSRS. EDITORS—Will you please inform me through THE CULTIVATOR, the best manner of propagating balsam trees—also, of propagating blackberries from the seed? And if you can give me any information concerning the best time to plant apple seeds after they are taken from the apple—whether it is best to plant them immediately, or whether it will do to let them dry, you will much oblige. W. L. H. *West Winsted, Ct.*

Young balsams are most cheaply procured in this country from woods and swamps, this being the general mode practiced by nurserymen. They may be raised from seed by sowing in a fine rich mould, with a dry or drained bottom, and covering about a fourth of an inch deep. This surface must not be made wet, but kept constantly moist by a screen or cover, and the young plants when up must be similarly shaded from the sun. They will grow very slowly the first two or three years, and our correspondent will get out of patience with their tardiness, and procure larger plants elsewhere. Some nurserymen make it a prominent part of their business to procure these plants and furnish them cheaply at wholesale prices.

The blackberry may be raised from seed by washing out the seed from the ripe berries, mixing them with moist sand and keeping them moist by burying in the soil under a flat stone, and sowing in rich mellow earth very early the following spring, half an inch deep, and keeping the soil uniformly moist by a moss, mat or cloth covering.

Apple seeds will grow if not very dry, but they are more certain when kept moderately and uniformly moist. When *very* dry, the horny covering has become too hard; and they are then benefitted by scalding, taking care to scald in quantities of not more than a pint at a time, or in a broad very shallow vessel, so that the water may quickly cool; for if in large quantities, it will remain hot so long as to destroy the germ.

### Why Horses Bite their Cribs.

This question seems very sensibly answered by A. S. HALL of Malden, Mass., in the *N. E. Farmer*, and we give the substance of his reasoning on the subject:

Colts are raised in the country, and live for more than half the year in pasture; when old enough to work, they are usually much confined, and especially so when brought to the city; they are changed from their natural life of grazing, rolling and stretching at length on the ground to rest—and as the Hebrews longed for the flesh-pots of Egypt, so they hanker for their old pastures in the country; and in their longings gnaw their cribs and hitching posts, and every sleigh and wagon back they stand next to.

Mr. H. gives two cases in which this propensity for gnawing was cured in a short time. One horse gnawed through the bottom of a two-inch plank manger in three week's time. After this he was put out in a little yard, to pick some grass and ground, and roll, for one hour at a time, if he could not spare his services longer. In four or five weeks he was almost entirely cured. Another horse equally inclined to gnaw, was cured in two weeks, by being allowed to roll two or three times a week, and a chance to gnaw the frozen grass in the fence corners. Two other horses owned by Mr. Hall, have been cured by like simple treatment, and he recommends those who can do no better, to provide a barrel of fresh earth, and a soft place to roll on, for their horses, and they will find them more healthy and less inclined to gnawing everything within reach.

Every horse owner may have observed that horses at pasture seldom practice this habit, and the same is true of cattle and other domestic animals.

### Soap Suds for Peach Trees.

MESSRS. TUCKER & SON—Is soad suds considered good for peach as well as apple trees? In what proportion should the soap and water be, and how and when should the application be made? R. *Franklin Depot, Va.*

We have found soap suds to be beneficial to peach trees, and they would no doubt generally prove so. As commonly used they are very largely diluted, and in this state, and applied broadcast many feet about the tree, could not possibly do any injury. More caution might be necessary if the soap was in a more concentrated form, and applied closely at the foot of the trunk, yet we have never known any injury of the kind. Soft soap, without any addition of water, is often used for the bark of trees without any bad results. It is not advisable to manufacture soap suds on purpose for trees, as potash may be used in a cheaper form in ashes—they are applied merely as refuse matter.

### Growth of Calves.

MESSRS. EDITORS—I send you the increased weight of three Durham heifer calves, from May 17, till June 10, a period of 24 days. Their feed was new milk, night and morning, and grass during the day:

| No. | *Weight, May* 17. | *Weight, June* 10. | *Gain.* |
|---|---|---|---|
| 1, | 200 lbs., | 264 lbs., | 64 lbs. |
| 2, | 250 " | 330 " | 80 " |
| 3, | 290 " | 366 " | 76 " |

This would give per day for No. 1, 2⅔ lbs.—for No. 2, 3⅓ lbs., and for No. 3, 3 1 6th lbs. W. M. *Pulaski, N. Y.*

### A Bundle of Recipes.

From the letters of our correspondents we condense several valuable recipes, and present them in a single article:

#### To Remove Films from the Eyes of Cattle.

I have not found a surer remedy than finely pulverized earth, occasionally blown into the eye through a quill. T. R. W.

#### Cure for Horn-Ail, or Hollow Horn.

If the hair of the end of the tail is in rolls or curls, cut off one inch of the tail. Then turn the animal's head on one side, and pour boiling water upon the lower horn till he dodges, and then take the other horn. By this time the animal will sweat, and 3 or 4 ounces of mustard seed ground, should be given in some kind of feed. P. L. EVANS. *Richburgh, N. Y.*

#### Wash for Wounds, Corks or Collar Galls.

1 oz. white vitriol, 1 oz. copperas, 1 table-spoonful gun-powder, 1 qt. soft water. After washing the parts with hot soft water, and wiping dry, apply the above wash with a sponge or cloth. H. *Fulton.*

#### Cure for Fistula or Poll-Evil.

Procure a handful of Poke roots, put in one gallon of water, and boil till the strength is out—after which, boil down the liquid to one quart. Then add half pint spirits turpentine, and half pint oil of spike, and simmer away to a quart. Add 4 oz. blue vitriol, and it is ready for use. Wash the sore with soap suds, and when dry, apply the liniment once a day. C. F. W.

## Attendance at Fairs.

As the season is rapidly approaching when our annual exhibitions of the various Agricultural Societies is to take place, it may be well to say a word or two upon it at this time.

A great many farmers and their families live so remote from places where exhibitions are to take place, that they can only attend one day out of the three or four devoted to the whole show, and to make the most of a brief time should be the prime object with all.

It is generally the case with those who attend fairs, that on coming into the grounds, they begin to "see what is to be seen" in the most imperfect and hurried manner possible. They pass through the several departments of horses, stock, implements, and in the tents of manufactured articles, with a rush; not stopping to look at anything a minute, but gazing at the whole with a hurried and superficial glance. So they pass from one point of interest to another, and at length they have jammed through the crowd and seen the whole! But what do they know of what they have seen, or what can they tell of a single article? Ask them, (after the Fair,) if they noticed such an object—a machine of curious and peculiar workmanship—and they will answer, "No." "Why you should have seen that," is the response; but in the bustle and crowd they hurried along—saw a good many things, but noticed nothing. The only thing connected with the exhibition which they remember, was, they saw a great many people, and were in a hurry and crowd all the time.

Now let us tell you how to see all that is really worthy of particular attention—even at the State Fair—in a brief space of time.

In the first place, settle the fact before starting, that all cannot be seen. To be better understood, if you were to give any degree of attention, or even note, to every article presented for exhibition, it would take you a whole month, and then perhaps it would not be accomplished. So we mean simply this: make up your mind to give attention to the really valuable and interesting objects, and pass by those which are ordinary or common-place. If you are interested in the department of cattle, pass by the good stock; but when you see something more than that—something extra, or having some remarkable features,—make a brief note of it and pass on. In this way go through all the departments—which can in this manner be accomplished in less time than one would suppose. Have a note-book, or a slip of paper, and where an article of greater importance presents itself, note it down. In this, you economize your time—have a better idea of the whole exhibition, and come away with much practical knowledge of the affair, and with a good idea of some interesting features, which were worthy of special attention, and not with a confused mass of objects, about which you know nothing.

The great object and chief end of our agricultural fairs, should not be lost sight of. They are indeed, the farmer's holidays; they come at a season when the more severe and harder labors of the farm have been brought to a close—when the golden harvest has been gathered in, and it is fitting that the hard-working farmer, with his family, should indulge in that relaxation from toil, and in the pleasurable and instructive exercises which our fairs afford. But let us repeat it again—make your attendance at the coming exhibitions of our agricultural societies, not only a recreation, but a means of improvement in the various branches of Rural and Domestic Husbandry. No better opportunity can possibly be had, if rightly improved and made use of. Do not therefore, go with only a thought of passing away the time, or of spending it in an indifferent manner; but go to think and study—to talk with your brother farmers, and to examine the stock, implements, and produce brought to the exhibition by them. Then will it be a useful attendance, and you will return home with a fuller determination to work, and to accomplish something greater than you have yet done, in this your most noble occupation.

## Vitality of Seeds.

The seeds of many kinds of plants possess a wonderful vitality, and we often find our fields strangely seeded, perhaps, from plants grown hundreds of years ago We have seen instances where a luxuriant crop of mulleins was produced, by plowing pastures on which none of these plants had been seen for many years. The same is true of sorrel, which, we think, will lie in the soil without growing, until "the peculiar acid which gives life and sustenance to the weed," again is formed in the soil. It is a strange fact that land rooted over by hogs, should so often produce Mayweed, and we have seen it affirmed that it was invariably the case. We have known turnips to grow from seed sown twenty years before on newly cleared land, many plants appearing after the first and second plowing. The field had been in pasture meanwhile.

## Stretches in Sheep.

**Can you give me through the THE CULTIVATOR, a remedy for the so called stretches in sheep. I have tried several remedies recommended in agricultural journals, but without effect. I want some one to give me a reliable and effectual recipe for its cure, if there is one. J. A. MORRISON.** *Sullivan Co, N. Y.*

**In The Cultivator for 1858, page 159, A. G. Webster, of Union Mills, Ind., states that after having tried a number of remedies to no effect, and having lost several sheep, he has since cured those of his flock who have been affected with this disease, by giving them red pepper tea. Take two or three pods, put them with water and steep, and when cool give two doses a day, if the first does not afford relief.**

## Ticks and Lice on Sheep and Cattle.

**Open the wool on the back of the sheep, from the head to the hips, and strew in a tea spoon of yellow snuff, mostly on the neck and shoulders. This treatment has proved effectual with me, in removing ticks from sheep, and it is easier and safer than washing with a solution of tobacco. For lice on cattle, mix yellow snuff with lamp oil, and rub on where they will not lick it. I have known several calves killed by washing them in strong tobacco water. A READER.** *Willow Valley. R. I.*

THE SCIENTIFIC AMERICAN.—This useful and popular journal has just passed from an old series to a new. It now contains sixteen pages weekly, and is furnished at the former price, two dollars per annum. As a scientific publication, its long establishment is proof of its usefulness and reliability. Address MUNN & Co., 37 Park-Row, New-York.

## Mr. Hunt's Cow.

GENTLEMAN EDITORS—In your issue of May 12th, I noticed some remarks from your Ithaca correspondent, in which he seems to imply (or I imply it for him) that the statement given of the products of my cow for the last season, were rather steep, and wishes a statement in regard to her; and as you have requested me to comply with your correspondent's request, I most cheerfully do so.

And first, she calved along the first days of April. As the calf was taken away when four or five days old, we commenced making butter on the eighth. Her feed was, in addition to hay and grass, her own milk, with just bran enough put in to make her eat it. She gave milk during the whole year, and the amount of butter made from April 8, 1858, to April 1, 1859, was as follows:

| | | | |
|---|---|---|---|
| April, | 41 lbs. | October, | 45 lbs. |
| May, | 60 " | November, | 38 " |
| June, | 74 " | December, | 30 " |
| July, | 55 " | January, | 26 " |
| August, | 50 " | February, | 25 " |
| September, | 49 " | March, | 23 " |

Total, ..... 516 lbs.

I can only trace the family of this cow back to 1832. Her granddam was raised by Joseph M. Chafee, a farmer of this town, and I bought her of him in 1839, then seven years old. I soon found that she was an excellent cow; and frequently, when I sold the butter and weighed it, I found she made from fourteen to sixteen pounds per week. I kept an account of the amount of butter made from her one season, but as the account has got mislaid, I cannot give the exact amount, but it was over 480 lbs., with five in the family all the time, and two boarders a part of the season. I owned the old cow ten years, and sold her at seventeen years old.

The dam of this cow I sold when a calf, four or five days old, to Bela Short. He kept her until three years old, when she had this calf, and died shortly after, but had every appearance of being a good cow. Mr. Short kept this calf until it was two years old, and sold her to George Cranphin, of Lebanon. He kept her until fall, and sold her, with others, to Mr. Willcockson, of our village, for beef, and I bought her of Willcockson as he was taking her to the slaughter house to kill, and have owned her since. She is thirteen years old this spring, good size and body, and very heavy hind quarters; of a yellowish tan color, with a very yellow skin. She had her first calf in the spring of 1849, ten years ago, and I have no doubt but she has paid for herself, at $50 each year, and her keeping.

I would here say, that I had no anticipation at the time of publishing the amount of butter made during the season, and did not therefore make any extra effort to see how much could be made. My daughter having the management of the milk and butter, for her own satisfaction weighed and kept an account of the amount made, and I will give you her figures for each churning during the month of June, 1858—her rule was to churn twice each week, Tuesdays and Fridays, as follows:

| | | | |
|---|---|---|---|
| June 1st, | 8lb. 6 oz. | June 18th, | 8lb. 0 oz. |
| " 4th, | 6lb. 1oz. | " 22d, | 10lb. 0 oz. |
| " 8th, | 9lb. 4oz. | " 25th, | 8lb. 5 oz. |
| " 11th, | 8lb. 5oz. | " 28th, | 7lb. 7 oz. |
| " 15th, | 8lb. 4oz. | | |

Making ..... 74lb. 0 oz.

The difference in the amount made in each churning may be accounted for in the amount of milk and cream used in the family.

It may be interesting to some to know how we manage the milk, so as to make it yield the most cream. We never put it over two inches deep in a pan, and I have no doubt that if our dairymen would use double the number of pans to strain the milk into, they would find it to their advantage. Let them try the experiment. O. HUNT. *Eaton, June 23, 1859.*

## Summer Care of Cows.

A Delaware Co. dairyman, writing to the *Ohio Cultivator*, says cows should never be kept in the yard through the night after milking, if they can be turned into pasture; in hot weather, when flies bite severely, night pasture is of as much benefit to the cows as feeding by day. He changes his cows from one pasture field to another every week, if possible, and says "they will do a great deal better, give more milk, and make more butter," if thus managed. Never drive cows faster than a walk; never kick, pound or yell at them when milking; cows cannot have too kind treatment to do well—cruelty and carelessness will render the best cows unprofitable.

In regard to feed, the writer thinks the natural grasses, such as June grass, etc., make the richest and sweetest butter. Clover and timothy are the next best. In the fall, meadow pasture is the best. Pumpkins are first rate feed; they make butter of excellent flavor. Green corn fed to milk cows in the fall is valuable feed, and is especially profitable in dry seasons when pastures fail. It increases the quantity of milk and butter, and makes of the latter an excellent article. Cut and feed when the corn is in its milky state, they will eat it stalks, blades, and all.

Now is the proper time to sow corn for feeding green, and we think every dairyman will find it advantageous to do so.

## On Cheese Making.

EDS. CO. GENT.—After twenty-five years' experience in the business of the dairy, we having always kept from twenty to twenty-five cows, I think I can give a very good receipt for new beginners.

For ten pails of milk, as soon as milked, while warm put in the rennet, according to the strength, enough to set it. If it does not set it in fifteen minutes, add a little more. When the curd has set, take a long wooden knife and cut through the curd, both ways, carefully. Let it stand about five minutes, then stir with the hand carefully. Place the strainer over the tub, and dip off the whey. Now dip in pans, and set in a cool place over night.

In the morning run up your curd in the same way, and after cutting, put in last night's curd after draining, and squeeze very carefully with the hand. Dip off one pail of whey, and heat scalding hot; if not scalded alike, heat more and stir continually. Then place a ladder over another tub with a strainer and basket, and dip the curd and whey into the strainer. Do not let it settle together. Then remove it back to the tub, and mix one pint of best salt. If sage is wished, three tablespoonfuls is a plenty if dried and sifted. Then put in the hoop, and it is ready for the press. Turn in four or five hours, and let it remain until the next morning; then grease with lard. If the cheese is large, bandage when spread enough. Keep the cheese room dark days, and raise the window nights.

If the lady of Michigan will try this receipt, we think she will have better success, if she takes good care of them for four weeks. MRS. S. JOHNSON. *Schuyler Falls, N. Y.*

## Remedy for Bugs on Vines.

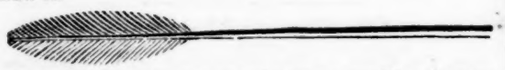
I frequently see directions for preventing the depredations of *bugs*. A *very* simple remedy which I have tried for many years and successfully, is to place a shingle or bit of board by the hill of squashes; the bugs will resort to these for protection by night, and may be easily destroyed early in the morning. It is necessary to follow up the thing for two or three weeks. This is for the large dark colored bug. For the striped, I sprinkle plaster of Paris on the vines, when the dew is on them. In very warm days it is well to visit the squashes near the middle of the day, as the black bugs will resort to the shingle for protection from the heat. M. K.

I have had excellent success in raising squashes, cucumbers, and all other kinds of vegetables, and protecting them from bugs, without the use of boxes, glass, or gauze. Procure a barrel, and throw into it the excrements of cattle, with sufficient water to make a strong liquid, and give the vines a drenching with the mixture every morning. Keep the barrel replenished, for the longer it stands the better; and it will prove not only an effectual remedy against the bugs, but a superior stimulant. A READER. *Willlow Valley R I.*

HUNGARIAN GRASS.—In regard to the Hungarian grass, I can say, though it may be German Millet, I find I can get two tons of hay per acre, as I did last year, from the poorest and lightest land I have on my farm. It suckers or stools more than the common millet, makes a finer and more nutritious hay, and a decidedly surer crop. Such is my experience. I got two bushels of seed from Iowa at heavy cost, and have sold seed at $3 per bushel—probably all sold ere this that I had to spare. I esteem the Hungarian grass as a valuable crop. E. CORNELL. *Ithaca, N. Y.*

## Cure for Gapes in Poultry.

MESSRS. LUTHER TUCKER & SON—In your reply to J. F. W., page 383 of the Country Gentleman of the 16th June, on his inquiry as to a cure for gapes in fowls, you say the most simple remedy is "to give half a tea-spoon of ground pepper to a grown hen, and vary the dose according to the age of the patient." This remedy, and all other medicines are utterly useless, as I have found from fifteen years experience, as they do not reach the disease of the gapes, it being a worm or worms in the windpipe, and the only way to cure chickens, goslins, or young turkeys—old hens and ducks never, from my experience, having the disease—is to remove the worms with a trimmed feather, (such as I have formerly described,) passed down the windpipe, and twisted round while you withdraw it.



Thus far this summer, out of a large quantity of young chickens, turkeys, and goslins, I have lost but a single goslin with the gapes, and that died before I had time to operate on it, but immediately after its death I passed the trimmed quill down its windpipe, and brought out eight or ten live gape-worms; so there could be no question as to the cause of the death of the goslin, which was as large as a full grown duck. CHALLES F. MORTON. *Mill Farm, Mortonville.*

## How to Destroy Rats.

EDITORS CO. GENT.—I have noticed inquiries with regard to the best mode of destroying rats. Two years ago I was literally overrun with rats, and after trying all sorts of traps, and various other modes to rid myself of the nuisance, without any sensible effect, and after reflecting a little on the habits and instincts of the animal, I concluded to try strychnine.

I took a common-sized candle box, 12 by 18 inches, and bored a hole in each end with a two-inch augur. I then put in the box a quart of dry Indian meal, with which I mixed two ounces of strychnine, and placed the box in the hog-pen, "where they most did congregate," in one corner of the feed alley, and covered it up with a tight lid. In a short time the rats disappeared as if by magic; on several occasions I found them dead in the box; and when the meal was all gone, I prepared another dose, very little of which was used, for the reason there were no more rats to eat it; and I have scarcely seen a rat about the premises since. C. P. S. *Fort Plain, N. Y.*

## Cheese Making.

MESSRS. EDITORS—Noticing an inquiry in the COUNTRY GENT. about cheese-making, and having had some years of experience in the business, and the good luck to never lose a pound, I give my practice.

I set the milk at 90 degrees, in spring and fall, and 86 in hot weather. Heat up three times—first 90 degrees, then 95 degrees, and last 100 degrees. I salt about one teacupful of salt to 16 pounds of curd. I use much care in breaking up and working the curd; cutting at first with a dairy knife of four blades, and using the knife with one hand during the whole operation, taking particular care not to squeeze the curd in any way, but pass one hand under, and lifting gently, and letting it fall off the hand and between the fingers, and with the other keep the knife in motion in the curd, cutting it as fine as possible by the time it is ready for salting.

Thought and care are essential in all the various operations. Intense interest and anxiety are necessary in order to do *all these things well*, for *they* influence the *texture, flavor, and quality of the cheese.*

RENNET.—The stomach of the calf should be taken when empty, (no curd in it)—care taken not to get dirt on it—and without rinsing or washing, and salted inside and out, with one teacupful of salt to a rennet, and placed in an earthern dish. It should lay in the salt two days, then be stretched upon a stick in the form of a hoop to dry. When dried, take it off the stick, and place it in a tight sack for use. Those prepared one season are not to be used till the next.

To soak the rennet, take an earthern vessel; put three in it; then take two gallons of water, put one quart of salt in it; boil and skim, and cool till milkwarm. Then pour it upon them, and in one week it will be fit for use. One teacupful of the liquor will curdle the milk of two milkings from fifteen cows, fit to break up in forty minutes. MISS S. G. *Herkimer Co., N. Y.*

Our correspondent will please accept our thanks for her prompt response to Mrs. SHEDD, and we hope she will favor us with further contributions to our pages.

## To Our Lady Readers.

"Domestic Economy" should be one of the best filled and in every way most valuable departments of a journal claiming to be devoted to the interests of our Rural Homes. Not that it should take the place of other departments of equal importance, but in its own sphere it should be what they also are, complete and reliable. We now appeal to our lady friends to help us in making this part of the present volume of the COUNTRY GENTLEMAN more valuable and perfect than it has yet been. Please send us short articles or recipes, embodying any useful fact or any really reliable information in regard to the numberless matters connected with any branch of rural and domestic economy with which you are acquainted. You will thus confer a favor upon us, and have the satisfaction of knowing that you may benefit others by what you write.

## Cream Beer.

EDITORS COUNTRY GENTLEMAN—As the *warm weather* is *approaching*, we begin to think of refreshing drinks. I have a famed receipe which I give you. It is an effervescing drink, but far pleasanter than soda water, inasmuch as you do not have to drink for your life, in order to get *your money's worth.* The effervescence is much more slow.

Two ounces Tartaric Acid.
Two pounds white sugar.
The juice of half a lemon.
Three pints of water.

Boil together five minutes. When nearly cold, add the whites of three eggs well beaten, with half a cup of flour, and half an ounce of essence of wintergreen. Bottle, and keep in a cool place. Take two tablespoonfuls of this syrup for a tumbler of water, and add one-quarter of a teaspoonful of soda. L. E. R.

## Preserving Fruit in Cans.

EDS. CO. GENT.—Some time since you were anxious to know my method of preserving fruit in cans. I intended to have informed you sooner, but entirely forgot it. I will give it to you to day:

To one pound of the fruit, I put a quarter of a pound of white loaf sugar. Put them over the fire together. Let them boil up once. Then have your cans in a pail of water as hot as possible without breaking them—have *them* also filled with water of the same temperature. Let them remain so for a few moments. Then, while the fruit and sugar are boiling hot, fill the cans while they are setting in the water. They must be filled to the very top. Then put the cover on, and seal with cement. After filling them, take them out of the pail of water and put them away to cool. After they are *cold*, turn them over on the cover side, and let them remain so until you wish to use them.

I have saved fruit in this way for three years; and have now strawberries and peaches that are as fresh as though they were picked this year, which are a year old.

I always use the glass cans, for I consider them more pure than any other kind. M. H. K. *Auburn.*

## Drying Rhubarb.

Is pie-plant good dried, and is drying it much practiced? L. H. *Warner, N. H.*

Rhubarb is good when dried, and if not much practiced, it is not because the merits of it is unknown; for when prepared it will keep for a long period, and be almost as good and fresh as when used in a green state. The stalks should be gathered, pealed, and cut into pieces about an inch in length; these pieces can then be strung on a small twine and hung up; or they can be kept in tin dishes and plates around the stove, until they are perfectly dry. It shrinks very much in drying, more perhaps than any other plant—but loses none of its properties by the process, and it is as good for sauce or pies in winter, as that of any other dried fruit. When wanted for use it should be soaked in water over night, and then simmered over a slow fire. Rhubarb is a wholesome plant, and is becoming more generally used than formerly.

## Recipe for Currant Wine.

MESSRS. EDITORS OF THE COUNTRY GENTLEMAN—I send the following receipt for making a good currant wine, in hopes thereby of promoting the domestic manufacture and use of a healthful beverage, free from the noxious ingredients which now almost universally enter into the composition of what is sold for and drank as imported wine. Those who are only acquainted with the old fashioned, thick, sweet, heavy currant wine, have no idea of the beautifully clear, light, delicate and aromatic beverage made of currants by the process now described.

The wine thus produced has the flavor of the lighter grape wines, and to my own taste, and that of many of my friends who have tried it, is preferable to the ordinary Sherry or Madeira. I have found that currant wines made apparently in precisely the same way, in different years, will exhibit differences of color and flavor, but still never coarse or disagreeable to the palate. It is probable that the process of manufacture is as readily affected by atmospheric changes, by slight differences in mechanical treatment, by the condition of the fruit, or the state of the season, as in the making of grape wine. I have not had myself sufficient experience to decide upon these points; nevertheless, by the rules now given, an article is made far superior to most of the wine sold in our shops, and you have, in addition, the satisfaction of drinking a wine that you know *personally* to be free from the admixture of whiskey, brandy or any fiery liquor, and that is not poisoned by the vile drugs of the distiller.

RECEIPT.—Pick the currants when fully ripe, and before they begin to dry on the bushes. Mash them with a pounder, in a clean wash tub, and strain out the juice through a bag of coarse open texture. For every quart of juice, add

2 quarts of water, and
2¼ lbs. of the *first* quality refined brown sugar.

I use what is called coffee crushed sugar. Put this mixture, after thoroughly dissolving the sugar, into a keg or cask, according to the quantity you have, and fill up to the brim, so that the liquid comes up even with the top of the bung hole; this is to admit of the flowing out of the cask by the bung hole, the scum and impurities thrown up to the surface during the process of fermentation. You must manage to have left over a little of the mixture, perhaps a quart will answer, for the purpose of filling up the vessel every three or four days, as it gradually loses in quantity by this process of ejection at the bung hole, and through evaporation. Water may be used if sufficient wine has not been saved, but the cask must be kept even full, except just before closing it, when there must be a space for air between the bung and the surface of the wine. Of course the bung hole must be kept open while the fermentation lasts. This may continue three or four weeks, according to the temperature of the weather, and the situation of your cask. I prefer a situation in the cellar, where, at the season of making, the mercury will range from fifty-five degrees to sixty-five degrees, and I let the fermentation continue about the period mentioned above. I close up the cask before the fermentation has *entirely* ceased, but after the most violent stages of it have passed by. This can be ascertained on examination, in part, by listening to the sound of the effervesence, and noting its gradually diminishing action and force. On closing, bung up tight until the February or March subsequent to the time of making, when you may draw out the wine and bottle it. It is well, when you place your cask for the reception of the wine, to tilt it up a little behind, so as to draw off the contents, as near as possible to the bottom, without disturbing the sediment, which, when stirred up and mixed with the wine, spoils its purity and flavor

I have found it to require at least two and a-half quarts of currants, as ordinarily picked from the bushes, with stems mixed in, to make one quart of expressed juice. Every four pounds of sugar, dissolved in the juice, will add about one quart to the quantity of liquid. If you wish your wine very sweet, add three pounds of sugar to every quart of juice.

I consider the following points of importance in securing a good wine. These are, first, the use of the very best refined brown sugar. I presume white sugar will answer as well, if not better, but I have never tried it; second, the removal of part of the impurities in the liquid, by the fermentation, in a full cask with an open bung hole, the aperture thus affording an escape over the side of the cask for the scum and froth; and third, the drawing off the wine without the slightest admixture of the sediment deposited at the bottom during the fermentation.

I have tried making wine both from grapes and currants, in large jugs, but have never succeeded, principally I judge from the difficulty of removing the wine without disturbing the murky deposit at the bottom of the jug.

I have no question but that excellent grape wine may be made on the above principles, excepting perhaps that much less water must be added to the grape juice.

A small machine for grinding currants and grapes, and expressing and straining the juice, and adapted to family use, and not for the wholesale market, which would require works on a larger scale, is a great desideratum. One was got up by a skillful mechanic in this place, last year, which answered a very good purpose, but to be effective as desirable, required further improvement. Whether it has received it or not, I have not heard.

Messrs Editors, do you know of any such machine? In fine, I send you by express two bottles of currant wine, made according to the above receipt, in two different years, and you may thence judge of the value of both the wine, and the receipt for its manufacture. You will perceive that no mixture of ardent spirit of any sort is required to keep the wine good. H. L. Y. *Poughkeepsie, June 30.*

## Rhubarb Wine.

I wish to inquire through the "Country Gentleman," how the juice of rhubarb may be extracted to make wine. L. E. R.

We find in the N. Y. Tribune a receipt for making "pie plant wine," as furnished by Mr. B P. Cahoon, of Kenosha, Wis., the originator of the system.

The juice of the rhubarb is extracted by the same process that currant, elderberry, or any other juice, and mixing with the juice an equal quantity of water. To each gallon add three and a-half pounds of fair quality of New Orleans sugar. Put in barrels or casks, filled full, and fined with isinglass; being allowed to remain in the casks until spring, and then bottled. By adding or diminishing the quantity of sugar, it will vary the strength of the wine in the same proportion.

Rhubarb is said to afford a greater quantity of juice than any other plant, and it is also considered a better quality than any but grape juice to make domestic wine. The process is simple, and has this to recommend it; moreover, it is said by those who have tested the merits of rhubarb wine, that it is equal to American sherry.

## Curing Green Beans for Winter Use.

MESSRS. EDITORS—Noticing in THE CULTIVATOR of June, 1859, page 185, a recipe for "curing green corn for winter use," induced me to send you, for the benefit of yourselves and the numerous readers of your excellent journals, the following recipe for curing green beans for winter use, which, if used in connection with the corn receipe above alluded to, will afford a repast that in midwinter will be found highly nutritious, and will be eaten with great gusto.

The modus operandi is as follows: Pick good, tender sweet string beans, cut them into pieces about three-quarters of an inch in length, throw them into boiling water, let them stand five minutes; then, having the oven heated just hot enough to avoid burning the beans, spread on tin or earthen dishes, set them into the oven, and let them remain there till perfectly dry.; when they should be put up in small bags, and hung in a cool, dry place.

When you wish to cook a mess of corn and beans, put them to soak over night in warm water, and cook them as usual. I. T. WHITBECK. *Yaphank, L. I.*

## Drop Cakes.

One quart of flour, 2 eggs, half a cup of butter, half a cup of sugar, one teaspoon of soda, two teapsoons of cream tartar. Stir butter and sugar together, add the eggs, put the cream tartar into the flour, dissolve the soda in a little milk, pour in milk enough to make as stiff as pound cake Put in the soda the last thing. Bake in cups or muffin rings set on a tin sheet. S. E. R.

☞ Mr. E. MARKS of Camillus, N. Y., has sold his fine yearling Short-Horn bull Felix, 2851, from Fanny, a superior milker, and sired by the first prize bull Echo of Oxford, (12821) 1500, to TIMOTHY BREWSTER, Esq., of Adams, N. Y.

## Wilson's Albany Strawberry.

This celebrated strawberry was originally grown from the seed by the late JAMES WILSON, of this city. It is extremely hardy, the plants early in spring presenting a deep, healthy green; and in all places wherever it has been tried, both in this State and other localities east and west, stands unrivaled for productiveness, size and firm, juicy flesh. At a late meeting of the New-York Farmer's Club, a committee of five presented a report upon the six best kinds of Strawberries, and *Wilson's Albany* was placed at the head of the list for "size. productiveness and firm, juicy flesh." It seems to be very generally considered the most prolific and profitable sort for market now grown.

The cut accompanying this article is an exact representation of a cluster of the Albany Seedling in its growing state; the size given being the result of careful and exact measurement of the fruit grown in the western part of this State, under ordinary cultivation.

We should have acknowledged in our last, a basket from Cashier LOVETT, an amateur grower, filled with the finest specimens of the Wilson we have yet seen. Mr. L. has about twenty-five varieties of the strawberry growing side by side, all treated exactly alike, and no one who has seen his beds will doubt his assertion that the Wilson will produce three times the amount of fruit of any of the other varieties.

WILSON'S ALBANY SEEDLING.

## N. Y. State Ag. College—Laying of Corner Stone.

The seventh day of July, 1859, will remain an honorable and eventful one in the annals of our State, and in the agricultural history of the community. The day will be remembered as the one in which the corner stone of the New-York State Agricultural College at Ovid was laid, in the presence of three to four thousand people.

At two o'clock P. M., the officers of the Institution were escorted from the College Farm House to the site of the building now erecting, by the Geneva Cornet Band—where after a prayer by Rev. Mr. HART of Ithaca, Col. B. P. JOHNSON, Secretary of the Board of Trustees, read a list of the contents of the box to be deposited under the corner stone, which consisted of a plate on which was this inscription: "New-York State Agricultural College, July 7, 1859. Corner Stone laid by John A. King, Chairman Board of Trustees. Chartered April 15, 1853,"—together with a list of the officers, trustees and builders of the college—a copy of the Bible—of N. Y. State, and American Institute Transactions—Norton's Elements of Agriculture—Agricultural papers of the State of New-York—daily papers of Albany and New-York—Dr. Sprague's Sermon on the Atlantic Telegraph—copy of Baron Von Humboldt's letter to Col. Johnson—Proceedings of Dedication of N. Y. State Agricultural Rooms, February 12, 1859—with Dr. Fitch's Reports, Col. Johnson's Report on the World's Fair of 1851, and a list of subscribers and donors to the College.

The President, Ex-Gov. KING, then proceeded to lay the corner stone in its place, and as he struck it three times with a hammer, the band struck up an appropriate and lively air.

Ex-Gov. KING then proceeded to deliver the address—in which he spoke in the highest terms of the originator of this great enterprise, the Hon. JOHN DELAFIELD, from whose personal exertions an act was passed by the Legislature in 1853, granting a charter for a State Agricultural College, to be located in the county of Seneca. Mr. DELAFIELD was the first President of the Board of Trustees. In 1855, the citizens of Ovid raised the sum of $40,000 for the purchase of a farm, and the next year the State loaned the Institution the same sum for a space of 21 years, without interest.

The address was listened to with great interest, after which remarks were made by Col. B. P. Johnson, T. C. Peters, W. H. Bogart, M. R. Patrick, A. B. Conger, and J. B. Williams; after this, letters were read from Ex-Presidents VAN BUREN and FILLMORE, and from Gov. MORGAN and Ex. Lieut. Gov. SELDEN, stating that they could not be present. The exercises concluded with a prayer by Rev. Mr. KELLER of Trumansburgh, Tompkins county.

The course of study at this Institution is to be thorough and practical, and it is intended to make the farm more of an experimental than a model one. It is thought the entire annual expense of each pupil will not exceed two hundred dollars.

THE WIRE WORM.—*Manure* is well known to good farmers, as one of the best remedies for the evils of the wire worm, to say nothing of its other good qualities; and some farmers adopt the following mode of applying it. The land for spring crops is plowed very late in autumn, the later the better, so that the cold may effectually chill them; and during winter manure is applied to the land, with three or four bushels of salt, and if practicable twenty or thirty bushels of ashes. The two latter may be applied early in spring; and if the manure is made into compost with turf, loam and sand, the previous autumn, with the salt and ashes added at that time, and the compost applied early the following spring, it will succeed well.

## Foreign Editorial Correspondence.

### Agricultural Education in Prussia.

From Letter V., Dated Munich, June 12, 1859, we give the following extracts:

The Prussian Agricultural Schools are, some of them, public, and others are private establishments, but all receive governmental support, and, as has been indicated, are generally under governmental control. In the place first there are *four* public AGRICULTURAL ACADEMIES, the purpose of which is to instruct *young farmers who have already a preparatory knowledge*, in the physical sciences, and their bearing upon Agriculture, and in Agriculture itself, with its associated branches of industry. They are each provided with a chemical laboratory, a library, collections of natural history and natural philosophy, and a building for the practical purposes of husbandry, in connection with a larger or smaller quantity of land. This land is intended not only to afford instruction, but also in time to yield a harvest of benefit from the experiments carried on upon it, with the aid, where necessary, of the laboratory, and including the culture of new plants and varieties, the results derived from different manures, the comparison of different methods in the culture of crops and in the feeding of stock—all conducted with the double object of advancing scientific truth and of improving actual practice.

The laboratory thus subserves an important purpose in the development of such experiments, while it is also essential for the chemical studies and analytical problems which form a part of the student's pursuits, and should therefore be located in a room adjoining the one occupied for chemical lectures. The other apparatus, particularly such instruments as the microscope, are also of use in conducting experiments, and solving the resultant inquiries, and both teachers and pupils have the use of the library, the collections, models, etc.

The oldest of the four institutions to which this general outline applies, is that at *Eldena*, in New Citerior Pomerania. It was established in 1834, upon an estate of the same name, belonging to the dotation of the University of Grieswald, as a branch of the university. Originally its main object was the instruction in this department of national economy, of young men destined in after life to serve as public officers, and its discipline still continues such as it is supposed will best answer this particular end.

As I understand the division of the 1650 Prussian acres,* composing this estate, 1200 are devoted to the practical agriculture of the farm, 314 are in meadow, 40 in pasture land, 19 in gardens and hops, 6 under water (for ponds), 17 in an experimental field, 2 or 3 in nursery, while the remaining 50 are rented. The soil is pretty fertile, and the ground quite even. A stock is kept of 25 horses, 21 oxen, 50 cows, 2 bulls, 20 young cattle, 884 sheep, and 71 swine. From 1,500 to 1,800 cwt. of malt, it is stated, are worked up annually in the great beer brewery; 350,000 bricks and tile for various purposes, and 300,000 draining tile are burnt in the kilns, and there is a small distillery—this last, however, merely for the instruction of the pupils. The faculty includes a Director, (now Mr. RAUMSTARK) who also teaches in the economical and statistical branches; a teacher of agriculture, including the structure of vegetables, general farm management and account keeping, and the history of agriculture; a teacher of chemistry, physics, the structure of the soil and technology; and the administrator of the farm, who instructs in practical husbandry and in the associated arts, including particularly the care and breeding of sheep and cattle, the culture of meadows and of farm crops. There is also a teacher of botany, zoology and the physiology of plants; an assistant teacher in veterinary science, the physiology of animals and the breeding of horses; another in the cultivation and care of wood-lands; a third in architecture, a fourth in mathematics and surveying, and a fifth on law as connected with agriculture. The number of students here last winter was 54, and a boarding house was occupied by them in the village of Eldena.

The second of the academies occupies nearly 4,100 acres on a public domain called *Proskau*, and includes two estates, one bearing this name, and the other called *Schimnitz*, in Upper Silesia—having, out of the above area, 466 acres in meadow, 33 in pasture, 25 now designed for an experimental field, and about 20 in nurseries and gardens, while some parts are let to private persons. The necessary buildings were provided in 1851 and 1852. The soil is argillaceous, with some sand and lime, and is rendered wet by springs, to obviate which some attempts have been made at drainage. The climate suffers from the vicinage of mountains. The stock kept includes 2,600 sheep; 20 hogs; 27 cows and 138 other cattle, young and old; 51 horses and 9 foals. Brewing and distilling are not done largely, but brick-making is extensively carried on. The teachers include Mr. HEINRICH, the Director, and others similar to those at Eldena, and are 10 in number. There are here 77 students.

Near Bonn is situated the academy of *Poppelsdorf*, the third on our list, and differing considerably from the other two, mainly in the smaller scale on which its farm-operations are conducted. The estate whose name it bears, belongs to the University of Bonn, and is leased to the Ministry of Agriculture,—under whose supervision lectures were commenced in the fall of 1847. The farm contains 126 acres, of which 17 are employed in experiments, a botanical garden and a vineyard. Its soil is of that most fertile and friable kind which characterizes the Valley of the Rhine, and it enjoys the climate of Southern Germany. Among its crops tobacco is cultivated, but the technical professions are not carried on, and the stock only numbers 25 cattle of all ages, and 3 horses, with apparently neither a sheep nor a hog. There are 70 students, and 6 teachers, including Mr. HARTSTEIN, the director, together with four assistant teachers. The courses of study appear very similar to those already described. I notice however, that instruction is given in the care of silk-worms and bees, and in "hunting and fishery."

Two miles from Konigsberg, in the province of Prussia, there was opened in the fall of 1858, the fourth of the Agricultural Academies, which derives its name, like Proskau, from the public domain on which it is located—that of *Waldau*—a domain covering nearly 2,000 acres, including 430 of meadow, 335 of pasture, and 15 of garden-land The pasture is swampy and difficult to drain; the meadow, although good, is not yet protected from the inundations of the Pregel, on which river it lies; the soil is generally clayey, and the climate that of Northern Europe. The stock number 60 horses, young and old, the same number of cattle, 700 sheep and 30 swine. Mr. LETTEGAST is Director, and with four other teachers and one assistant, during the sessions of the past winter (1858-9) has had nearly 50 students, instructing them with especial reference to the husdandry of northern Germany and the keeping of sheep.

There are moreover, two private Agricultural Academies, receiving State support, but of quite limited means—one at *Mogelin*, in the province of Brandenburg, under the direction of the son of the celebrated THAER, and the other at *Regenwalde*, Pomerania, until the recent death of Dr. SPRENGEL, under his supervision.

Then come what are rather singularly, as it seems to me, termed "private" agricultural schools, because in the same sentence it is stated that they are "supported and controlled by government." It is, perhaps, universally a matter of belief on the continent that the goverment must be and do everything for the sake of the governed, (or for its own,) and it is worthy of one's constant observation to trace the continual differences wrought out even in the slightest things by a theory of State management so entirely the reverse of our own. While the temptation to diverge upon a subject on which so much might be said, is very strong, it may be

* The Prussian acre, I think, is very nearly equivalent to our own.

better to withstand it for the present; the great problem of making both children and men behave themselves, educate themselves, earn their living, and worship their GOD, is one which has so long, often so angrily and always so diffusely been discussed, whether in civil life or in action on the field, that an American had better be shy of approaching it, unless the necessity that compels him and the time at his disposal are equally great.

The purpose of the *private* schools referred to, is to exercise young peasants in the best ways of performing their labors, and to show them also WHY *one way is better than another*—to lead them to *think*. Consequently the instruction given must be adapted to the faculties of its recipients, while the number of them varies according to the extent of the estate and the views of the owner. The products of their labor go to the benefit of the farm, and the crops are either used in the institution, or disposed of towards its support. The conditions on which students are received vary widely, like the branches in which they must be taught, with the different localities where the establishments are situated; usually the State contracts with the proprietor for the instruction of the student, during even as long a period as ten years, and it also appoints one or more officials, as may be necessary, in the carrying on of the school.

Of these schools I will not copy the list; it includes no less than 18, generally with from 6 to 18 students each; and situated four in the province of Prussia, three each in Posen and the Rhenish province; two each in Brandenburg, Saxony and Westphalia, and one each in Pomerania and Silesia. One of those in Saxony, that at *Badersleben*, is in a district where the peasants are of a more wealthy class, and it has taken a character intermediate between the academies and the schools, having from 60 to 80 students, and over 1,300 acres of land. There is one in the Rhenish province which has 30 students, and another with 25. The aggregate of all these schools is over 300.

### Baron Liebig's New Work.

[*Extract from Letter VIIth.*]

It may be thought that "deterioration" and "exhaustion," are becoming the burden now-a-days of too common prophesy, but we know that in many localities they are already the burden of inherited lamentation. I doubt if it can be preached too earnestly and repeated too frequently, that, as every barrel, even to the great tun of Heidelberg, has a certain capacity, and as, however great this capacity may be, it never reaches a point at which its contents may not in time be entirely drawn off,—so no soil is so rich that constantly cropping it without any adequate addition to its resources, will not in the end exhaust its productive power, and leave the unhappy owner much in the condition of that famous amateur farmer, who killed his goose to get all her eggs at once.

Now Providence in its all-wise arrangement of mundane affairs, has expressly constituted many different kinds of life, that each in turn may support and be supported by the others. There is perhaps no single evidence of Design which science has so clearly shown and so beautifully expounded as this; of which so many illustrations are constantly occurring, and which so wonderfully proves that in the economy of Nature around us, the machinery is every where adjusted, wheel to wheel and cog to cog, with the exactitude we endeavor to obtain in a perfect chronometer, or rather with the undeviating precision that marks the clock-work of the skies and regulates the succession of sun, and planet, and satellite.

Thus it happens that if the product of a certain soil, instead of being suffered to remain upon it, is taken away to serve as the nourishment of animal life, we are permitted in turn to look to the latter as one chief source of materials, which, if placed again upon our fields, will exert there an agency more or less similar, according as the task is thoroughly performed, to that which might have spontaneously resulted if their vegetable growth had been allowed to remain and decompose on the spot where it germinated and by the use of means within the power of all, shall be enabled to anticipate not only an increase of productive power in our soil, but also to reap from it each season an abundant harvest. To elucidate a system of farming which will bring about this result, is the great object of all the practice our Agricultural journals are recording; and to follow in the footsteps of Practice, to explain the path in which she has trod, to place upon the basis of an unimpeachable theory the merely empirical lessons she can give—becomes the task of science—a task in which some of her devotees have been long at work, and although without having accomplished thus far as much as was at one time looked for, still, in all probability, with the full degree of success which its numerous difficulties and complications could admit.

Baron LIEBIG has just published a new book, and its key-note is this vital necessity of maintaining the supplies of plant-food which the soil has, in a form available for use. I do not know whether the views he so strongly advocates to the exclusion of all others, as to the danger of our exhausting our mineral or inorganic vegetable elements from the soil, before we shall exhaust its nitrogenous or organic ones, will eventually be sustained in the length to which he carries them; indeed I have thought that soil, sub-soil and rock beneath, might, altogether, possess greater latent resources of this kind than he considers science to have shown. I have questioned whether it might not be the part of the fertilizer so to act—like the moss upon the tower, if the comparison is allowable—in bringing into condition for consumption by the future crop those mineral constitutents, the stock of which seems proportionably so immense, instead of itself to supply them directly. I have doubted if those who think the value of their manure gaged *directly* by its ammoniacal strength, instead of in the somewhat round-about way in which Liebig explains the fact (see page 211) can be so entirely in the wrong, as he would make them out.

This, however, does not detract from the value of these "Letters on Modern Agriculture," or the facts they bring to light, the thoughts they suggest, the distinctions they lay down, or the earnestness with which they press upon the view the importance of a better culture. In another letter, although time will scarcely at present permit, I should like to revert to their presentation of several subjects, some of them occurring incidentally in the discussion of other questions, and all worth placing in a strong light before the eyes of every farmer. Practical men are berated pretty roundly, it is true, for their sins of omission as well as commission, and here I think a critic acute enough might point out admissions in the course of the volume, that soften very considerably some of its hard words. The severe strictures upon most of the Agricultural literature of the day, though *partially*, perhaps, deserved everywhere, the author very properly limits to Germany—a fact which should be remembered in the reading.

None of my American papers, so far received, have any notice of this book, and I have been so long beyond the reach of the British Agricultural journals, that I do not know with what measure of favor or criticism they have greeted it. When in Munich, I had the pleasure of seeing its author, who seems as constantly, as he is devotedly, engaged in those scientific investigations, the fruits of which appear from time to time in his writings, while even the interest they possess scarcely contributes more to his popularity and success as a writer, than the lucid style and apt illustration with which they are uniformly presented. L. H. T.

The VIIIth Letter of this correspondence we give in full, believing it will be read with interest.

### War and Music.

The steamers of last week will have given you the news of the battle of Solferino, while in the papers that reach you by the same vessel that carries this, you will have the official details which we now possess. It was evidently a most hotly contested struggle, in which the

Allies, while they have gained an unquestionably great victory, have paid for it a price correspondingly large. I can, however, imagine the enthusiasm which reigned in Paris, when the first exaggerated reports of the allied successes were received. It happened that I was there when the Emperor left the capital to place himself at the head of his forces; the Empress, as you already know, accompanied him to the railway; and the streets leading thither from the Tuilleries were crowded with spectators, upon roadway and sidewalk, and in the windows above them, and the number of hats that were waved in the air, and the voices that came from the owners of the hats, and the genuine feeling of sympathy and loyalty that was apparently manifested throughout, were quite striking to witness—indeed, an American who has long resided there, said to me afterwards that he had never seen demonstrations so open and sincere on the part of the French. They are not disposed, and I doubt if any people are, to give vent to their enthusiasm in quite so noisy a way as we do; I presume many of our politicians have been honored on the stump with cheers which would "carry" a great deal farther than the expressions—in comparison mild—which have greeted the master of so many millions, going to lead into hazardous conflict one of the grandest armies ever gathered and arrayed.

By the way, what an opportunity is afforded to the Peace Society to issue tracts upon such a conflict! We shudder from head to foot when we read of some Norwalk catastrophe on the railroad, hurrying into eternity its score or two of travellers; but who pauses to count the agonies and consider the far vaster terrors of the battle field, when men, who are our brothers in humanity, if not in either race or nation, are by hundreds and thousands coolly summarized upon a tablet of "killed, wounded and missing," without a thought upon the fate of each unit in the awful whole, or of those links so suddenly severed, which once bound that unit to parents, children, friends, a home and a native place—any more than one would stop to waste the sympathies of the heart upon the contortions and death-struggle of "the poor worm we tread upon."

But I did not propose to furnish such a tract myself, and fortunately have a pleasanter subject to speak of. In the midst of twenty-five or thirty thousand other individuals, I enjoyed a small quota of the last day's Handel Festival Music, at the Sydenham Crystal Palace. Uncertainty about being able to go prevented my taking a reserved seat, and, in fact, I could not finally reach the grand scene until the first part of the programme was already concluded. The crowd itself was not only a surprising thing to see, but I doubt very much if such a number of people could have been found in any other part of the world, or near any other city than London, to pay for the hearing of so few hours' music, from $1.25, the lowest price, up to $5 or $10 for the choicest places. The affair, as you will have seen by the published statements, proved pecuniarily as well as musically a "great success." At the rear of so many eager ears, drinking in with all their power the sweet notes that reverberated from the orchestra in the transept,—my particular ear away in the nave, could receive but a small rill out of the great river of sound. They were performing the "Israel in Egypt,"—famous for its choruses—and now and then one of them would call into exertion all the 4,000 pair of lungs and arms that were at work together under the magic direction of the quick-moving and most energetic *baton* of Dr. COSTA, who, with every motion of it, up and down, or right and left, appeared to sway the grand combination of instrument and voice in perfect time and tune,—and in such a chorus, the melody was not wholly lost in making its way through the aisles and galleries of this immense glass building.

### Suffolk Agricultural Show.

Before the subject is old enough to have lost its freshness I want to say a word or two about the 28th Meeting, just held, of the "Agricultural Association" of Suffolk. It occupied only one day, Friday, July 1st, and took place at Christ Church Park, a finely shaded and otherwise beautiful site for such a purpose, near Ipswich.

A catalogue was for sale at the opening of the Show, including all the animals, but not the machinery on the ground. The main feature, perhaps, was the great display of Suffolk horses. I do not know whether we have ever imported any animals of this breed. Here in Suffolk it is thought to be scarcely paralleled for its power, activity and endurance. The color is an almost uniform and attractive chestnut. The height is from fifteen to seventeen hands. The weight attained is sometimes pretty large—two cart horses which I saw at the extensive Agricultural works of Messrs. RANSOMES & SIMS, having turned the scale respectively at 1,750 and 1,850 pounds. Whether this was considered an unusual thing for the breed, I did not understand. A number of them on the Show grounds were most powerful in frame, possessing great and compact muscular development, and at the same time clean and fine in the legs. In the class of "Agricultural Horses and Colts," there were shown no less than 134, of which the great majority were of this description; and, for agricultural purposes, their activity and strength renders them very superior, just as the excessive weight and still greater strength of the Lincolnshire horses make them the best for the heavy London drays. Some of these Suffolks have a great deal of symmetry and style, and seem to be as perfect of their kind as a painter could represent them. Among other prominent exhibitors, a gentleman named BADHAM, of Essex, was one of the most successful—his horse, "Chester Emperor," taking a sweepstakes prize open to all England, of $150, for the best horse shown of any kind whatever, and the first prize of $50, with $25 additional to the breeder, as the best stallion for Agricultural purposes. The same exhibitor also took a number of others in the different divisions of this class of horses. THOMAS CRISP, Esq., of Butley Abbey, showed his aged stallion "Marquis," two entire colts, respectively two and three years old, an aged mare, and a foal, several of which are mentioned in the prize list. Of Mr. CRISP's stock, as well as his farming, which is conducted on a very extensive scale, I shall have more to say hereafter.

There were 107 horses shown for "Riding and Coaching." Four or five thorough-bred stallions, several of them shown by Capt. BARLOW, were on this list, and both among them and in the rest of the catalogue there was much to be admired, and while I believe that this part of the show compared favorably throughout with the usual exhibitions of the country, it was better in horses for riding and hunting than in those for the coach, which were not largely represented, and moreover no premium for Matched horses, of any kind, appears on the list. A handsome brown Welsh pony was shown by Mr. CRISP, taking the prize from five competitors.

First on the cattle list come the Suffolks, a breed about as uniformly red as the Devons are, but red of a somewhat different hue, and in all other respects about as unlike them as possible. They have no horns, and an odd way of carrying their heads. But their skins are soft, and their forms not without compactness and a fair quantity of meat that is said to make really first-rate beef. Their great point, however, is their milk. I was told that it had long been the way with the breeders to save every calf out of a really fine milking cow, no matter what other qualities of good or bad it might possess. This has resulted in a degree of excellence as milkers, which the Suffolk farmers consider higher than that of Ayrshire stock. A gentleman informed me, for example, that he had lately sold a Suffolk cow, which made 15 pounds of butter during the week before she left him, and he since learned from the purchaser that during the week first after she came into his possession, she had exceeded this amount—making, I think, 15¾ pounds. He also spoke of a cow's having, to his knowledge, continued several years, I think four—to give milk constantly, never being dried off, even to the very day of calving.

Of the Suffolks there were shown eleven bulls, divided into two classes, respectively over and under two years old; fourteen cows and fifteen heifers. Mr. A. W. CRISP was quite a large and successful exhibitor.

The other cattle prizes offered were for similar classes as to age and sex "of any other breed, not Suffolk." The competitors were all Short-Horns, and while there were not many possessing any extraordinary merit, they were as a whole a nicish lot, to use an English adjective. Lady PIGOT, of Chippenham Park, exhibited three heifers, all receiving first prizes, respectively three, two and one year old—the two latter (both roan) particularly pretty, and the first (white) reminding me of "Capt. Baleo," even before I discovered from the catalogue that he was her sire. Mr. THOS. CRISP stood second to the above in all three heifer classes. The cows included several very good ones. Of the four bull prizes, three went to Mr. CRISP. The cattle list concludes with a class of Fat Oxen or Heifers, but there was nothing very remarkable in the eight that were exhibited.

Among the sheep there was also a breed "*now named*," says the catalogue, "the Suffolk," and one of the speakers at the dinner objected to such an application of the name, on the ground that he didn't think the sheep good enough to deserve it. The fault he chiefly found, was that they don't fatten well. But I am told they have one merit in a high degree—that of being *good mothers*—giving an abundance of milk for their offspring,—and that, on this account, the ewes are in considerable request among those who raise large numbers of sheep for market. They cross a ram of some long-wooled and easily fattening breed upon these ewes, and the lambs early come to be of good size and fit for market. Thus, while the young "Suffolk" rams might fetch say three and a half or four dollars for the butcher, the females in the flock would bring perhaps six or seven for breeding in the way above described. Sheep of this kind have the head and legs still blacker than the South-Downs; they are hardy and prolific, and, as I have said, raise their lambs remarkably well. There were fifteen pens of them on exhibition.

Of South-Downs the show was quite a good one, numbering a dozen lots, and the twenty-three pens of Long-wooled sheep appeared to me to be generally very meritorious. In the former I have again to mention the name of Mr. CRISP as an exhibitor and prize-taker; a Mr. SEXTON was also a large and successful contributor, taking both first and second prizes in the class of yearling rams, with two grandsons of Mr. Webb's "112."

Last come the Suffolk pigs, of which, as might be expected here in their native district, we saw as fine a display as could be wished. There were upwards of thirty lots, justifying fully I think that degree of partiality with which this breed has already been received among us. The first prize boar and the breeding sow which received the same honor, belonged to Mr. CRISP. I do not mention the names of several other gentlemen, who had exceedingly good specimens both in this and the previous departments, because they would be of little interest to most readers, while as I have already hinted, Mr. C.'s farm operations will form the subject of another letter, and it is as well that this one should show that he has stock capable of winning for him about a due proportion of prizes.

The premiums offered vary in amount from $50 down to $15 for horses; from $30 to $10 for Cattle, Sheep and Swine. I understood the receipts of the day to have been about $1,250. There were only three committees of judges, each of four members—one committee for the Agricultural Horses, the second for Riding and Coaching Horses, and the third for Cattle, Sheep and Swine, all in a lump. The judges were at work soon after seven in the morning, and when, at eleven o'clock the public were admitted, their work was done, and the Premium animals were all so marked. The price of admission was two shillings, (say 50 cents,) from 11 to 12 o'clock, after which hour it was only half this price. Soon after four the dinner was held at a hall in the town, and I suppose several hundred sat down to eat it and to listen to the speeches which followed. Soon after they sat down, neatly printed lists of the prizes awarded were ready for distribution—showing a promptitude in this respect which I wish we might imitate.

### Steam Plow and Cultivator.

In a field near by, Fowler's steam plow was busily in operation. This consists in an engine combining the operation upon itself of the windlass required in moving the plow together with a means of changing its own position when desired. In operation it stands at one side of the field, and at the other there is what is called an "anchor," furnished with a windlass corresponding to that upon the engine. A wire rope passes around these two windlasses like an endless chain, drawing the plow first toward the anchor and then back toward the engine—anchor and engine both moving themselves along their respective sides of the field as fast as the ground between them is plowed. To avoid the necessity of turning the plow around at each end of its furrow, it is provided with two sets of shares facing in opposite directions, with their beams fastened together so that when one set of shares is in the ground, the other sticks up at about 45° in the air. By a simple contrivance the course of the plow is regulated, the plowman having a seat on it for the purpose. Four shares work at once, or three on lands too heavy for a larger number. Besides the engineer and plowman, there must be a man to attend to the anchor, and two boys to keep the chain out of the plow's way, moving it along the middle of the field as the work proceeds. This steam plow has taken the Royal Agricultural Society's Twenty-five hundred Dollar prize (1858,) the Highland Society's Thousand Dollar prize (1857,) and several smaller ones. Its cost I believe is £650 or about $3,250, a sum so large as to be quite frightful, although at the same time if the machine fully met the views of the farmers of England I imagine there are many whose capital is large enough to allow of this or even a still greater expenditure.

On the same land Smith's steam cultivator was also at work. This is an arrangement by which any Portable Steam Engine can go into the field, and by simply turning a windlass carry the cultivator across it in any desired direction. The price seems to me larger than necessary for the apparatus required; being rated, exclusive of the engine (8 horse power,) with which the farmer is supposed to be already supplied, at about $1,000. This, however, together with another $1,000, or $1,250 for the engine, is a considerable saving on Fowler's price—although the difference is possibly not quite so great as the figures represent which I have given. The windlass in Smith's machine consists of two rollers, one unwinding the wire rope as fast as the other winds it up. The rope extends *around the field*, having pulleys anchored at the corners, and wooden rollers here and there for it to run on. The cultivator is attached at one corner of the field, where the operation begins; one roller on the windlass, in winding up the chain set free from the other roller, draws the cultivator along the side until it reaches the end of the furrow, when it is swung around, still remaining attached as before; the *other roller* of the windlass begins to wind up by a very simple change of gearing, and so the implement is carried backwards and forwards till the whole is done. The manufacturers say that about forty sets of this machinery are now at work, "thirty of which were purchased by tenant farmers."

It strikes me that either or both of these machines are worth the trial with us—especially at the west. If not patented in the United States, as I presume they are not—they could doubtless be manufactured there remuneratively at lower prices, while any modifications shown to be requisite in experience could be applied, and might be protected very likely by patent. The system of pulling the plow by a rope, instead of having a locomotive engine to go over the field itself, seems to be the project likely to meet the most favor.

I have been dwelling so long on this subject that I will not speak at length of the rest of the exhibition.

McCormick's Reaper, manufactured by Burgess & Key, was at work. It has the patented arrangement to lay the grain in a swath, obviating the necessity of a raker —which was exhibited before a committee of our Society at Troy last year, and which has met with great success here. Messrs. Ransomes & Sims, Garretts, the Howards and others, contributed to a fine show of implements and Farm Machinery of nearly every description. From a number of manufacturers at Ipswich there was a large display of portable steam engines.

### Visit to the Residence of Mr. Bass.

Before going to Ipswich I spent a night at the residence of M. T. Bass, Esq., M. P., about twenty miles, I think, from London, on the St. Albans railway. It is a place only recently purchased by Mr. B., who has another home in Staffordshire, where he has all his life been largely engaged in farming, and where, at Burton-on-Trent, is brewed, in vast quantities, the ale labelled with the name of Bass & Co., and so well known both in America and many other distant parts of the world. The firm named has done a business of *nine hundred thousand pounds sterling* worth of ale in a single year, on which the impost or government tax amounted to £160,000 or thereabouts—being about $15,000 of our money for *each week the whole year round* The brewery is only in operation during the winter half year, where an enormous force of laborers is employed. Mr. B.'s farming operations are there conducted, too, in a thorough and extensive way; what would a farmer among us, say to a crop of fifty acres wheat in one field, *averaging throughout forty eight bushels per acre*?

The place I visited was purchased in bad condition, and Mr. B. is endeavoring to bring it into better. He has one of Fowler's Steam Plows at work for him,—to see which was indeed one main object of the trip. The soil is a light one, and easy to work. The engine had been plowing its eight acres a day, but when I saw it, it was pulling a scarifier. The country through which we passed though not generally rich, was with some exceptions in clean cultivation, and we saw wheat promising perhaps thirty bushels to the acre. The four-course rotation is the one generally followed here, roots for example one year; barley sown with clover, the second; clover the third, and lastly wheat. Sometimes by keeping the land two years in clover or grass, the course is extended to five years, and occasionally, with extra manuring, this is also done by adding another "white crop," as for instance oats for the fifth year. Turnips are not sown till July, but we saw some promising mangolds. Wheat is sown in October, and harvest comes on about the second week in July. They were haymaking when I visited the place. The ordinary price of farm labor was stated at about fourteen shillings (say $3 50) per week, from which it should be remembered that the laborer has all his own expenses to pay, such as house rent, &c., but a higher rate is paid during harvest. My host expressed the opinion that the general competence and comfort of the poorer classes of England was never at any former period in her history so great as at the present day.

The rent of the land in that vicinity is about twenty shillings, (say $5 per acre,) the landlord sometimes, if not generally, paying the tithes, which amount to several shillings. When the landlord drains the farm, the custom is generally to add to the rent 4 per cent. upon the cost of the operation, sometimes 5 per cent., but the landowner is willing to depend on the permanently increased value of the drained land for some of his return. Mr. Bass has drained very largely in Staffordshire. His experience leads him to prefer a depth of from four to four and a half feet, while the distance of the drains has varied with the nature of the soil from nine yards to twenty. Their average cost has been about $25 per acre, while some have cost as much as $27.50, in the latter case, the drains being nine yards apart.

The field on which we saw the scarifier at work had been plowed, was then receiving a second stirring, and would have the clod-crusher and roller each carried over it, by way of preparation for a crop of turnips. The previous crop being wheat, and the season of turnip-sowing being so late, in the interim the land had had quite a fallow.

### Trees and Lawns.

Our drive carried us between some of the first I had seen of England's famous "green hedge-rows;" many were grown so high that the narrow lane between them was almost like an avenue. In front of the mansion there is one of those beautiful lawns so much the envy of our landscape gardeners,—the turf, near by, here and there studded with flower-beds,—and the whole distance beyond, as far as the eye could reach, converted by a good natural disposition of the trees into a fine example of the graceful park scenery which is considered so essential an ornament to an English country-house of any pretensions. While the tree may be out of place in the pasture, so far as the question of economy is concerned, any one who can afford to indulge in a luxury, would find it better I think, to pay more for a little wood at least immediately about the home, even if less were paid for the wall paper within it. For, amid all the varied beauties of Nature, I know of none so little worthy of of our too common neglect; none presenting a wider diversity in the forms of wayward grace they take; none that are more "their own reward" to him that cares for them, or a more striking example of that wonderful workmanship of Nature which they illustrate in so many ways,—than the trees of the lawn or park,—which grow not straight-laced and stern, like the trees of the thick forest, nor yet are held in bounds by any man,—but send forth leaf and bough to the morning sun or the cool breeze of night just as it listeth them most; and, whether their branches droop for rest on the warm bosom that gave them birth, or stretch boldly outward and upward, or seem, as one looks from a little distance at their odd freaks of contortion, to be toying with one another as animals will twine themselves together at play,—with all the interest that circles them about, the trees are surely too nearly allied to us, and should be too dear to every eye and heart, to be ruthlessly cut down and cast away. It is to be wished that something of the English love of having them about our houses, and of the universal continental custom of planting them along our public roads, might be transported across the Atlantic. L. H. T. *London, July 6.*

## Three Good Cows.

Messrs. Editors—I notice in the Country Gentleman of the 9th June, vol. 13, no. 23, p. 365, a statement made of a cow called the Ingall's cow, which some of my neighbors with myself seem to think very large, which causes me to make a statement of a trial that I had with three of my cows, commencing 30th of May 1859, for seven days, feeding nothing but grass.

One was a heifer, 4 years old—7 days, gave 274½ lbs. of milk, which made 13½ lbs. of butter.

The second was an older cow—gave 240 lbs. of milk, which made 14 lbs. 2 oz. of butter.

The third gave 279½ lbs. of milk, which made 14 lbs. of butter.

I have kept a dairy eighteen years, and have good cows, but never saw such a cow as the Ingall's cow. My cows are of a native breed mostly, but the best of them are a cross of the Durham. I like the Durham cross the best of any; it gives size and flesh, and they are easy to keep. Ira Brown. *South Rutland, Jefferson Co., N. Y.*

## Buckwheat for Milch Cows.

An Orange county dairyman, S. C. Roe, feeds largely of buckwheat, without grinding. The grain is boiled with the hulls on, and when thoroughly soaked, put into the feed box, at the rate of two quarts to each cow. He adds two quarts of dry meal, which the heat and steam of the buckwheat cooks—this is sprinkled over cut hay, morning and evening, as the daily feed of the cow. He thinks half clover hay, well made, is better with grain, than twice the quantity of timothy with the same grain.

### The Thousand-Legged Worm.

MESSRS. LUTHER TUCKER & SON—Enclosed please find a sample of a small worm that has taken possession of my garden for the last three years, almost totally destroying everything of vegetable kind. In the winter season they disappear or go deep in the ground, and early in the spring commence on the winter roots, &c., and devour them until the young vegetables commence to grow, when they attack them and completely destroy all but some of the most hardy, which seldom get to perfection. The large strawberry, when near ripe, will often contain as much as fifty of them. They will make a small hole to enter, and devour the heart from the fruit, and so long as there is room for a worm they will go in. The young cucumber, radish, beans, onions, &c, all fall a prey to them. I call them wire worm, but not knowing them, I am uncertain whether correct or not; and as there are no others in the vicinity, I would like to know what they are, or if anything can be got to destroy them. I have tried lime, ashes, &c., but without success. The only way I can find to destroy them is, when the weather is warm, lay boards round the walks in the evening, when early in the morning they will be under the boards by *thousands* —then I apply boiling water.

Please say in THE CULTIVATOR, if there is any known name for them, and anything that will destroy them. JAMES ADAMS. *Armstrong Co, Pa.*

### Answer to the above by Dr. Fitch.

MESSRS. TUCKER & SON—The worms from Mr. ADAMS, are a centipede or "thousand-legged worm," pertaining to the genus *Julus*, in the *Apterous* or wingless order of insects. Unlike the great mass of insects, these undergo no transformations, but always remain in the worm-like shape in which they hatch from the eggs. And whether these specimens are the young of one of our larger species, or a minute species now in its mature state, I am unable to say, having never yet carefully investigated the group.

One of the latest and best authorities respecting them says, "*ces sont des animaux inoffensifs*"—these are harmless animals. They are most fond of dark, damp situations; hence Mr. Adams finds them congregated under boards lying on the ground Scarcely a bucket of water has been drawn from my well, this present season, that did not have one or two of these worms in it. Crawling from their retreats in the crevices of the stones of the well, they lose their foothold and drop into the water, the coldness of which renders them torpid and unable to crawl out. I must procure a trout and place it in my well to keep the water cleansed of these worms. Though should one of them chance to be swallowed in drinking, I doubt not the gastric juice would destroy and digest it. This, however, is an experiment in dietetics which I do not care about trying.

As to the food of these worms, it is no doubt vegetable substances which are in a diseased and decaying state. It is in old rotten logs in the woods that we always meet with our largest species named *Julus americanus* by Beauvois, and *marginatus* by Say, which is three and a half inches long, and over a quarter of an inch thick, of a lurid, grayish, olive color, with a red ring to each segment of its body, and usually just one hundred pairs of feet. And these small centipedes in our gardens and yards appear to be most numerous where decaying vegetable substances abound. Where a radish has been bored by the larva of the radish fly, where a cabbage root is clumpy or otherwise diseased, I have noticed these worms crowded together upon the affected spot, evidently to feed on the particles of semi-putrid matter they there find, and very probably promoting and extending the disease by removing this decaying matter, and thus exposing a fresh surface to the action of the atmosphere. And I presume the strawberries, cucumbers, &c., mentioned by Mr. Adams, were in the first instance wounded by ants or other insects, and were thereby rendered attractive to these centipedes. Several years since, a physician of this town, now deceased, from finding these worms very numerous in decaying potatoes, and unaware that they occurred abundantly on all other decaying roots, at once jumped to the conclusion that they were the veritable cause of the potato disease, and in the excitement at that time prevailing, his communications to the press on this subject attracted a somewhat wide notice. But everything known of these worms, impresses me with the belief that they never attack living, healthy vegetation, and consequently do not cause disease, though they may aggravate and extend it where it is already commenced. ASA FITCH. *Salem, N. Y.*

### Questions about Manure.

EDITORS CO. GENTLEMAN—In perusing the columns of your valuable paper for the past two years, I have continually found much to interest and instruct. Still there is one point which I have not seen elucidated to my satisfaction. It is one relative to that long and often mooted subject, manure.

The country is flooded with advertisements of the various concentrated manures of the day, each claiming the precedure; and we often find practical farmers who declare, as their experience, that there is nothing after all like barnyard manure for giving a permanent "heart" to the soil. Now the subject, of which the free discussion might afford much satisfaction to others as well as myself, may be best comprehended by the following series of questions:

1st. How does manure produce the effect which we observe to arise from its proper application? The results of drawing thirty or forty cart-loads of manure upon an acre of land are very obvious to the most casual observer; but the manner in which this effect is produced is not so evident.

2d. Whence does the plant derive its carbon?

3d. Does it absorb *any* carbon from the soil?

4th. In fact, does it derive anything from the soil, except moisture and soluble salts?

5th. Does manure do anything more than to furnish these soluble salts for the plant? If so, what is it?

6th. If not, could not the same quantity of salts taken from the land by a crop, be added to it in a contrated form, and thus restore and maintain its original fertility?

7th. Does nature furnish *any* direct agency for the promotion of vegetable growth, aside from the salts furnished by the manure?

8th. Agricultural writers lay great stress upon ammonia as a manurial agent. In what consists its peculiar excellence?

9th. Where is the proper place for manure—deep, medium, or surface, and why? J. B. C. *South Pekin, Niagara Co, N. Y.*

SEED CORN—TWO EARS ON A STALK.—O. M. Culver says in the *Prairie Farmer*, that selecting seed corn for a number of years from stalks bearing two or more ears, will change the habit of the corn so that it will generally bear two ears on a stalk, but the grain on the cob will not be so deep, and the proportion of cobs to shelled corn will be increased. Some think that by increasing the number of ears on a stalk, by their growing smaller and shallower grained, they will ripen earlier; but he thinks that is doubtful. The little pop corn has very small ears, but is a late kind—the Baden corn is very shallow-grained, but that too is among the latest in maturing. Will observing farmers gives us their observations on these points?

## Inquiries and Answers.

MOULD AND RIVER-MUD.—My farm borders on a small creek, emptying into the Ohio close by. The timber is very heavy and thick along the creek banks. The consequence is, a very heavy annual coating of fallen leaves. There is also annually a heavy coating of weeds and undergrowth. Superadded to these, the back water from the Ohio is over the narrow strips of bottom along the creek, at least one-third of the year. There is consequently in these narrow strips, a bed of decayed vegetable matter, consisting of leaves, weeds, water grasses, &c., mixed with the alluvial deposit from the Ohio, of many feet in thickness. Would this be valuable as a manure; and if so, what would be the best mode to apply it? It is quite handy to my fields. SUBSCRIBER. *Meade Co., Ky.* [Vegetable matter, like that described, is a valuable fertilizer on soils which contain too little—but if the adjoining fields already have an abundance, it will not pay to apply it. The same remark may be made of river mud. These materials might be used to great advantage in successive layers with manure for compost. If the soil needs them, the compost would be doubly valuable; if not, they would be useful only in retaining the manure. Compost heaps should be made as near as possible to the place of spreading, to save cartage.]

A CRAB WITH MAPLE LEAVES.—Enclosed I send you the leaf of a crab apple that very much resembles the maple, while the tree and the fruit are the regular crab of this country; a leaf of which is also enclosed to show you the difference. The fruit, however, is larger than the common crab, but in every other particular is a crab. The tree is now full of fruit, (crab apples with maple leaves) An old believer in wheat turning to chess, asks me to write to you to explain how a crab tree can have maple leaves, or how a maple tree can have crab apples, which he regards more improbable than for wheat to turn to cheat (or chess.) The thing is new to me, but, nevertheless, the tree is here, in an old field, among a lot of other crabs; the leaf, the ends of the limbs, and the large size of the fruit being almost the only difference that I can see, between it and other crabs, so common among us. I would like myself to hear your views on the subject, but am not myself a believer in wheat turning to chess (or cheat.) L. S. GASH. *Henderson Co., N. C.* [The leaves sent are those of the crab, and not of the maple, having the sweet taste of the former, and not the bitter maple taste. They differ from the common crab leaf in being larger and more distinctly lobed; the latter result often taking place when leaves are unusually large and thrifty, and resulting in the present instance probably from an unusually vigorous individual or variety, or rich soil, or both. Nothing is more common than for leaves under these influences to sport or vary in form. We have seen more difference than this in leaves on the same tree. To suppose this more improbable than that wheat would turn to chess, would be similar to the belief that it would be more improbable that a stunted, bony, round-bellied calf might have been a smooth sided fat one by good feeding, than that a young colt might have been changed to a Suffolk pig. The variation in the form and appearance of leaves is constantly occurring; but for a plant of the genus Triticum (wheat) to change to the distinct genus *Bromus* (chess) is simply impossible—it never occurred and never can.]

TOAD-FLAX.—Inclosed find two sections of one of the most deliciously stinking posies that ever graced the sidehill of old mother earth. I had supposed, after a ten years raid with true Highland grit, that I should find no more of them; but here they are. We do not know the name of them; if you do, proclaim it, and advise all farmers that have it to hoist their colors half mast and wear crape until they have made an end of it—I mean the weed. UNCLE BEN. *New Haven Co., Ct.* P. S. If your would like to know my method of *cultivation*, I will tell you some time. [The plant is the toad-flax, (*Linaria vulgaris*,) a naturalized foreigner, said to have been first introduced from Wales to Philadelphia as a garden flower, and from this a most troublesome weed has spread over the United States It grows in large patches by its creeping roots, and becomes hard to eradicate. The best way no doubt is to smother it to death, as with the Canada thistle, &c. We would like to receive a statement of the proposed "Method of Cultivation," if valuable.]

TRANSMUTATION.—I see much said in the COUNTRY GENTLEMAN, about wheat turning to chess. I believe the general opinion here is that it does turn to chess, and I should be glad to learn why chess follows wheat more than other kinds of grain. Can Mr. JOHNSTON tell us? Sixteen years ago this spring, I sowed 40 acres of oats in a field that had been cultivated in corn the previous season. I paid but little attention to it until it headed out, when I was surprised to see a field of chess, and nothing else. If there was a stalk of oats I could not find it, or have it found. I had about half of it cut for hay. The next season I had some of the same oat seed sown in an adjoining field, and raised a fine crop of oats and no chess. J. D. HALE. *Hale's Mills, Tennessee.* [Chess more frequently follows wheat than other grain, because it is more frequently sown with it. Our correspondent leaves us to infer that he supposes his sixteen acres of oats *all* turned to chess. We cannot, of course, entirely ignorant as we are of the state of the ground and the purity of the seed sown, undertake to decide why he had so fine a crop of chess, but we certainly should not attribute it to transmutation. We can, however, give an instance of supposed change, which quite equals this of our correspondent, related to us some years since, by a gentleman from Massachusetts. He stated that wishing to raise a crop of barley, he requested a friend at Syracuse, to purchase the seed for him—that it came to him in the winter—was deposited in his barn, where it remained until spring, when it was sown on ground thoroughly prepared. It came up and grew finely, but when it came to head out, not so much as a single head of barley was to be found in the whole field —*every stalk had changed to oats*, of which he had a beautiful crop. To this statement the gentleman was willing to make oath Yet that it was erroneous, there cannot be a doubt. In all such matters it is much easier for man to be deceived, in one way or another, than for Nature to turn aside from the unchanging laws impressed upon her by her Creator.]

COW MANURE.—Will you or some of your contributors, be so kind as to answer the following: Of what value is cow manure, during the summer season, when their feed is pasturage exclusively? What is its value compared with the horse manure, when he is fed on corn and hay? Will it pay to gather it up from the streets and alleys, (when near the manure heap,) and compound it with other manures for gardens? A. L. W.

RAISING WATER.—I have a drain running through my chicken-yard about five feet below the surface. Is there any way that I can bring the water to the surface, so that the poultry can have fresh water at all times, without pumping? R. F. [If the head of water is higher than the surface of the ground where the chicken-yard is, it may be brought up in a lead tube by the pressure—if not, a reservoir must be made for the insertion of a pump.]

WETHERELL'S HORSE HOE.—(*C. Ten Brook*, Annapolis, Ind.) This implement is manufactured by L. Wetherell of Worcester, Mass., the inventor. We do not know the price—our correspondent can address the inventor.

INCREASING STRAWBERRIES.—I have five hundred plants left out of the one thousand sent me last fall. They are looking fine, and are making runners very fast. I wish to know what way I shall proceed in order to get the most plants from them. Shall I cut them from the main plant as fast as they become rooted? I have been advised to let the first runner stand, and take

the second one. A little information on the subject would much oblige P. L. D. *Janesville, Wis.* [Let them run and root undisturbed till fall, giving them as rich and mellow soil as possible. The rooted runners, when they become strong, will send out more runners.]

SNAP-DRAGON CATCHFLY.—What is the enclosed weed? I send the top half of it. It grows from 12 to 20 inches high. The dark colored spots or portions of the stem are gummy, or sticky. Cattle eat it with avidity. It grows only on a portion of one field, and if it is dangerous, I wish to eradicate it. D. A. A. N. [This plant is the *Silene antirrhina*, which may be translated into *Snap Dragon Catchfly*, the only English name that it probably has. We are not aware that it has ever proved a troublesome weed.]

TIME TO CUT BUSHES.—In what month, or in what part of what month, must I cut alders if I would not have them sprout again? One of my neighbors tells me it may be done any time in April another, that July is the only month when it can surely be done. Another thought I must cut them in the old of the moon in August, and a fourth recommends the latter part of June. BERKSHIRE. [Our own experience is that alders should be cut in August, when the greater part of the sap is in the body of the tree furnishing new growth. If cut then, we have found that they will be less likely to sprout up, than if cut at a season when the sap is in the roots.]

DISEASE IN SHEEP.—We have a ewe which is shedding her skin, some like a snake. She commenced at the mouth, and thence gradually over the whole head, ears and all; down the neck, and along the back and sides, she has shed her skin, but not on her belly. Is there a definite cause to be given for this? Is it a disease or an accident? D. A. A. N. [We have no knowledge of this disease, and would call on our correspondents for information.]

MUSKRATS.—What is best way to stop muskrats from cutting off corn? Can any of your subscribers tell one? I have tried trapping and poisoning; but have not been able to stop them entirely. I. C. *Woodville, Pa.*

CABBAGE.—May I trouble you for a little information? I am losing my cauliflower and cabbage plants by the hundred. On examination I find collected about the roots, a nest of worms, like maggots, that feed on the juices of the plant until it dies. Is there any remedy for this evil, by which I can save the plants? Where do these maggots come from? From the eggs of a fly? If so, how and when are they deposited on the roots of the plant? Can any reason be given why these ravages are so much greater this year than usual? C. G. H.

WHEAT.—Please inform me through THE CULTIVATOR, where I can procure white Mediterranean wheat for seed, and at what price. H. K. *Wrightsville, Pa.* [We do not know where *white* Mediterranean wheat can be procured.]

PLASTER.—How much plaster for top-dressing grass or grain, should be sown to the acre? H. [Many of our best farmers have stated the beneficial results of plaster on grass, if put on to the amount of only one bushel to the acre; but the usual quantity is two to three bushels in this country. In England five are used in most instances.]

DEVON BULL.—What would be the price of a full blooded bull calf of the Devon Breed? H. [From fifty to one hundred and fifty dollars.]

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HAY FOR COWS IN SUMMER.—It is that hay may profitably be fed in small quantities to cows, in seasons affording flush pastures. It is well known that stock thrive less on the rapidly grown grasses of wet seasons, than on the comparatively scanty herbage of dryer weather. The excess of juices is no doubt the cause, and a slight daily feeding of hay acts as a correction of this evil.

## Thinning Timber—Tarring Corn, &c.

To what distance would you advise thinning a very thick growth of young rock maple trees, either for a sap orchard or for timber? On page 399 of the Annual Register for 1857, you say, "to destroy ticks, drop on tincture of lobelia seeds, a few drops only." Shall I understand this to mean that a few drops *upon a sheep* will kill all the ticks upon it at the time? Would you open the wool and drop it along the back, or how? Is there any danger of its injuring the sheep?

How can a farrow cow's milk be prepared so that it will be suitable for young lambs?

Several years ago, in the Co. Gent., you said "to preserve seed corn from birds, soak the corn over night in soft soap a *little* thinned, and roll in plaster before planting." Is that a sure protection against *crows* or only other birds? L. H. *North Weare, N. H.*

Young forest trees, intended to grow for timber, should be thinned out as they advance in growth. When small, they will grow thicker than afterwards, and each successive thinning will furnish valuable timber for different purposes—first hoop-poles, then rails and rafters, and afterwards heavier materials. They should in general be four or five times as high as they are asunder, and this rule will apply to any of the several thinnings.

The tincture of lobelia must of course touch the ticks in order to destroy them. Tobacco is the most common remedy now for ticks—a strong decoction being made for this purpose.

We have never tried the soft-soap remedy for repeling birds from corn, but have always been perfectly successful with tar—by first heating and wetting the seed by dashing scalding water over it, allowing it to remain just long enough to heat the outside of the grain, and then pouring on warm tar at the rate of a pint to a half bushel. The tar immediately forms a thin varnish over every grain, and then the application of the dust of air-slacked lime, gives it a coat that no crow or other bird relishes.

We are unable to answer the question in relation to preparing milk for lambs, and would request some of our experienced correspondents to do so.

## Trial of Mowers.

GUILDERLAND CENTER, Albany Co., July 7.

MESSRS. EDITORS.—A trial of Mowing Machines was held here to-day, and used on the said trial were the following Machines: Hallenbeck's, Hallenbeck's improved, Hubbard's, Empire, Wood's, Buckeye, Clute's, Mulley's M. & R. combined.

The undersigned were appointed a Committee on said trial of Machines, and after examining them, as well as the work done, we find ourselves unable to decide which is the best machine, but would respectfully say, that Hallenbeck's, Hallenbeck's improved, Hubbard's, Empire, Wood's and Buckeye, are all good machines, and done their work in a workmanlike manner.

We had no means of testing the draught of the different machines, but are pleased to say that the labor for the teams seemed to be easily performed by all the machines. In regard to side-draught, we think that Hubbard's and Clute's had the least; and as each machine has its own peculiar merits, and improvements are being made, from time to time, on these machines, the Committee feel confident in saying that they will meet the wants of the farmers in this section of country, and would therefore recommend them to the public generally.

S G. Waterman, A. Wetherwax, *Watervliet.*
Henry Sloan, Elijah Spawn, *Guilderland.*
P. V. W. Brooks, Joseph Hilton, *New Scotland.*
Elias Schermerhorn, Alfred Hungerford, *Berne.*
James Armsrtong, Charels Clute, *Knox.*

## Letter from John Johnston.

NEAR GENEVA, 12th July, 1859.

MESSRS. EDITORS—I enclose you one ear of my Missouri wheat. You may be sure it is not one of the worst, yet I doubt not there are many thousands better, as I did not think of sending one until I was about leaving the field, and then took one of the best I saw on a hard knoll where I stood. Although it was in ear a week before the Mediterranean, yet the latter is as ripe as it now.

I shall have 32 acres of the Mediterranean cut to-night—began yesterday. Wheat has ripened very slowly this year. When it came into ear, I expected harvest ten days sooner. It has ripened more as it does in England and Scotland, than I have known it, with few exceptions, since I have been here. I think you will hear of some heavy wheat in Seneca county this season. Still we never come up to the weight per bushel that they do in Britain—63¼ lbs. per bushel is as high as mine ever went when fairly measured, but I believe the Imperial bushel is a little larger than our Winchester bushel.

I think you will agree with me that the enclosed ear is a very plump fine one, although not a great many seeds on it—about 40 or a little over—I have seen far more some times, but the ears are very uniform, and it stands thick on the ground, has a very stiff straw, and will require and stand rich manuring and high culture.

We have had extreme hot weather for a few days—thermometer from 90 to 95 at 2 P. M. in the shade—and we are parched with drought. Late sown oats must be worthless; late sown barley, ditto.

I shall I think make a crop of barley. I won't talk about oats. The fact is we seldom make a good crop of wheat and oats the same season—I mean an extra crop of wheat. To make that, we need a dry summer. To make a good crop of oats we require considerable rain on our heavy soils.

The so-called Hessian fly has cut down considerable of my Missouri wheat; still it is full and plump, but will be troublesome to harvest clean. I shall lime the seed before sowing it, and hope it will escape next year. There is a little also in the Soules' wheat, yet it is a fine crop—the best I have had since 1855. The field, 28 acres, was highly manured with sheep and cattle manure. I never manured any so highly for wheat.

Yours truly, JOHN JOHNSTON.

## Breaking Steers.

EDS. CO. GENT.—In riding out the other day, I noticed the attempts of a couple of young men who were trying to break a yoke of oxen to the plow. They were giving them their first lesson, and the oxen being young, they had rather a serious job of it. Part of the time both were trying to get in the furrow, and then on the unplowed land, and, in fact, in every place where they should not be. At the same time considerable loud talking was going on, and a great deal of whipping. The team was warm, worried, and almost exhausted, and, as a natural consequence, they could do nothing with them. This reminded me of an incident that happened a day or two previous. Our neighbor S. had purchased a fine pair of young cattle, that had never been plowed, and been worked but little. Having commenced his spring work, he sent a hired man down to try them at plowing, Patrick vowing he could work them if any one could. About two hours afterward S. went down to see how plowing was progressing. He found Pat and the steers on a full run, he managing to keep one ox in the furrow; this happened, however, to be the wrong one, for the nigh ox persisted in taking the place of the off one. He had plowed in the same furrow since he had started. S. thought this was rather slow work, so they tried to get the erroneous ideas out of the nigh ox's brain, but all to no purpose. He then got an old pair of lines, and a couple of headstalls, and put them on as though it had been a horse team. They soon worked as well as an old team, without the use of the whip. This, I think, would be an excellent mode to break young steers, for you can guide them in obedience to the word of command. After they have learned the meaning of whoh, back, and other terms incident to cattle driving, the reins may be taken of. In training colts or steers, all that is required is gentleness and firmness. E. A. K. *King's Ferry.*

## The Rubbing Cure for Wens and Chronic Swellings.

When in our younger days our senior kept seven work horses, we had a good deal of observation and not a little experience of the effects of rubbing in the cure or removal of wens, tumors, swellings from kicks, strains, wrenches, &c.; and we have so many times seen its wonderful effects, that we believe there is nothing better—that can be applied to any indurate enlargement, where acute inflamation has subsided—than abundant *rubbing*. True, it costs *labor* to apply this sort of remedy, but this very much increases my faith in it; because remedies that are too cheap are not apt to be so much prized as dearer ones. The only little difficulty is, that "hard work" is requisite to success. In chronic swellings there is a deficiency of pure blood, ordinary natural circulation is obstructed or impeded, and foul matter, either from injured parts or active infection of disease, accumulates in larger or smaller masses. Now, if a wen or slow swelling be rubbed, the heat of it is increased by external friction and internal excitation, action. This increase of heat softens the induration, by causing a movement, and more or less interfusion of its fluid particles. By this means circulation is excited, and as whatever leads to arterial circulation leads equally to venous defruration, it follows, that as the arteries bring in new blood, and thus give new life and feeling to the part, the veins take away diseased, and refuse matter, whether the result of collision or infection. Thus the cure proceeds as the circulation is increased, and restored; the veins taking away an excess of black foul blood, and thus reducing the swelling in the degree that the circulation is accelerated, by rubbing; and when the circulation is completely restored, there is a cure. Thus does *rubbing* cure chronic swellings. J. W. C.

## Stimulant for Breeding Cows.

In an old agricultural publication before me, mention is made of a medicine which it says will induce a cow to take bull. Its composition is half an ounce of Cardamons, (grains of paradise,) and from quarter to half an ounce of Cantharides, (Spanish flies) I should like to know your opinion of the efficacy of this recipe, and the propriety of giving such powerful medicine to that amount. If there are any other provocating prescriptions practised and approved by any of your readers, they would do me a favor by communicating the same through the columns of your journal. H. F. *Southampton, N. Y.*

We know nothing of the value or efficacy of this mixture. We should have no confidence in it. Four or five grains of Cantharides would probably be as great a quantity as would be safe at one dose; and the above mentioned amount we should regard as highly dangerous.

ELDER LEAVES NOT A PROTECTION FROM BUGS.—I put a lot of elder leaves around my cucumber vines one afternoon, and next morning found about as many striped bugs on them as I did on the cucumbers. H. F. GIFFORD.

# Notes for the Month.

UNITED STATES AGRICULTURAL SOCIETY.—This Society has decided to hold its Seventh Annual Fair at Chicago, Illinois, Sept. 12—17. The Quarterly Journal of the Society for July, contains the Premium List, together with rules and regulations.

Persons intending to exhibit must become annual members of the Society, and entries made on or before Sept. 12th. They are also requested to make verbal or written statements concerning their contributions, and if such are of interest, or contain any special information or value, they will be published. Premiums will be paid at the business office on the ground, during the last day, and silver plate of equal value, if preferred, will be given in place of a cash premium, with a suitable inscription. Sales will be made during the exhibition, under such regulation as the Superintendent may hereafter prescribe. The Cook County (Ill.) Hort. and Ag. Society will exhibit and compete for the premiums offered by the U. S. Ag. Society. Col. HORACE CAPRON of Illinois has accepted the appointment of Superintendent.

CATTLE SHOW AT GREENBUSH.—The buildings on the Rensselaer County show grounds at Lansingburgh having been lost by fire, the society has resolved to hold its next fair at Greenbush, opposite Albany, September 13–16. They may anticipate a large attendance from their neighbors of Albany county.

"HUNGARIAN HONEY BLADE GRASS."—A friend has sent us an Ausgusta (Geo.) paper, in which we find a card from A. P. BEERS, an agent for the sale of the "Hungarian Honey Blade grass seed," in which he says:

"I have taken the trouble to ascertain whether the frequent attacks made upon it [the Honey Blade grass,] through the columns of the *Country Gentleman* were well founded. The result of my enquiries is, that its increasing popularity materially interfered with the *sales* of another species of seed, in which the *Country Gent.* is pecuniarily interested."

Mr. Beers is quite welcome to all he can make out of this falsehood, which seems to have been put in circulation to help off the "Honey Blade," which we believe has found but a poor sale. The COUNTRY GENTLEMAN has no interest, pecuniary or otherwise, in the sale of any kind of seed whatever.

THE WHITE GRUB—SALT.—A nurseryman informs us that he has nearly lost a block of fine young pears on quince, containing about 10,000, by the ravages of the white brown-headed grub, which fills the soil by thousands, and eats the bark from the quince roots up to the surface of the ground. Having observed, as he informed us, that Prof. Mapes recommended six bushels of salt per acre, as an efficient remedy, he has been experimenting with salt in a more decided manner. He placed thirty grubs in a flower-pot filled with salt, covering them with it. They seemed quite satisfied, and burrowed down near the bottom. In order to determine whether there was any difference between dry salt and the solution in its effects upon them, he then caused water to trickle down through the mass; and that he might know that they had not been *drowned* instead of killed with salt, he left enough drainage from the bottom of the pot to prevent the brine from accumulating. This experiment was quite similar in its results to the other—the grubs seemed rather gratified with the attention shown them in drenching them with the saline solution.

Our friend would like to know some remedy that will enable him to destroy these myriads of grubs, which appear to exist all through an acre or two of soil down to a depth of six inches. Can any of our correspondents inform him what to do?

"DRAINING LENGTHENS THE SEASON."—In proof of this, read the following statement by the editor of the *New-England Farmer*: "An acre or two of land which we thoroughly underdrained two years ago, laying the pipes down four feet below the surface, has been affected about as much as though the season had been lengthened three weeks, or the land had been south as far as New-Jersey."

THIRTY-EIGHT TONS OF HAY PER ACRE.—Italian rye grass, cut five times during the season, and watered after each cutting with ten thousand gallons of liquid manure, distributed through pipes by steam power, has produced this unprecedented amount of forage. A report of the Glassnevin Farm, Ireland, gives the time of cutting and product as follows:—1st, April 14, 6¾ tons, (of 2,240 lbs. each,)—2d, June 4, 9½ tons—3d, July 19, 7¾ tons—4th, 7¼ tons—5th, Nov. 22, 6¾ tons—giving a total of 38¼ tons per acre.

HAY CAPS.—We have received from the manufacturers, CHASES & FAY of Boston, a sample hay coverer, previously noticed in our columns. It is four feet square, the edges of which are hemmed. In the center is placed a riveted pin eight or ten inches in length, which goes into the top of a cock of hay, and at each corner are pins about seven inches long, fastened to the ends of elastic strings, which can be put into the ground or the hay, and thus keep the cap securely in its place. We do not know how farmers can get along without this indespensable article. See advertisement in this paper.

TRIAL OF MOWERS.—A voluntary trial of mowing machines took place at Sloansville, Schoharie county, N. Y., June 24; and the large attendance of farmers and those interested in improved agriculture and agricultural implements, gave conclusive evidence that they are awaking to the interest of improved machines for performing the larger and heavier work of farming operations. Among the machines exhibited, "Kirby's American," and "Wood's Improved," occupied a conspicuous place. These were respectively presented by D. M. OSBORN, proprietor of the former, and WALTER A. WOOD, the gentlemanly manufacturer of the latter. The "Buckeye Machine" was exhibited by the manufacturer's agent, JAMES WALKER, of Schenectady, and fully sustained its previous reputation in this trial. HARVEY SMITH, agent of R. L. HOWARD, the manufacturer of "Ketchum's Mower," presented one of those machines, and its management was artistic and beautiful. The exhibitors of the several machines met and parted with the utmost good will and friendly feelings; and they, as well as the large number of spectatators, pronounced the trial successfull and satisfactory, so much so that twelve machines were sold upon the ground.

TRIAL OF THE STEAM PLOW.—The trial of a new steam plow recently took place near Philadelphia. It is the invention of Mr. FAWKES, of Lancaster. It is attached to an engine 18 feet long, 7 feet wide, and weighing 7 tons, with upright tubular boiler. The engine rests on an iron drum six feet in diameter and six feet long, inside of which is an axle extending from end to end. The plows are eight in number, and are adjusted so as to lift up when the machine is turning at the end of a furrow, being turned and backed with as much ease as a common carriage. The two fore wheels are iron drums 3½ feet in diameter and 15 inches face, to prevent the engine from sinking too deeply into the ground. The machine turned over eight furrows at a time, each a foot wide and of ample depth, going at a speed that showed it capable of plowing several acres per hour. The work was perfectly satisfactory to the committee and spectators.

ANOTHER PROMISING SEEDLING STRAWBERRY.—CHANCEY MILLER, of the Church Family of Shakers in Watervliet, presented us last week, a basket of strawberries, from a seedling raised by D. A. BUCKINGHAM, of the same family, with which we were so well pleased, and with his account of its productiveness, that we rode out to the Shakers to examine it. We found the plant a very vigorous grower, and fully equalling Wilson's

Albany in productiveness, while the berries were of a larger size and brighter color, but less solid, and not so acid as the Wilson. Should it, upon further trial in different localities, fulfill the anticipations excited by its present appearance, it cannot fail to be a valuable addition to the number of our really choice varieties. The plants, we believe, will not be for sale until after another year's trial.

GRATIFYING MEMENTO.—The senior editor of the COUNTRY GENTLEMAN presents his thanks to Dr. JOHN R. WOODS of Albemarle county, Virginia, for a very beautiful walking-stick, received last week, wrought by hand from the root and wood of the Cornus florida, cut at Monticello, near the last resting place of JEFFERSON.

GRAPEVINES BEARING POTATO BALLS.—H. HOLMES of Stafford Springs, Conn, assures us that whenever he plants potatoes near his grapevines, the grapes are spoiled, and resemble potato balls. Several others, he states, have observed the same results. He wants to know if they mix. They cannot "mix," for there is not the slightest affinity between the grape and the potato—no dicotyledonous plants are more widely separated in their natures, and a cross between them would be as difficult as one between the owl and the whooping crane. If the grapes are "spoiled," it must have been in consequence of the vine losing its leaves, preventing the fruit from maturing, or some other stoppage of growth. We have known grapes to grow near potatoes in numberless instances, with no detriment whatever, except what might be expected from one plant interfering with the other, as always occurs when two occupy the same ground.

STATISTICS OF AGRICULTURE.—Figures are reliable, and although their results may sometimes startle, yet they are *facts*. By them we are able to judge, form opinions and decide, and in no way can such valuable and trustworthy information be gathered in regard to our Agricultural resources, as by actual statistics. We noticed recently the statistics of farm products in Ashtabula county, Ohio, which contains twenty-eight towns, and have carefully gone over the figures to obtain the averages per acre. They are: wheat, 10 1 7, bushels; rye, 10; barley, 10½ nearly; buckwheat, 12½; corn, 38½, and a fraction over; oats, 12½, and a little over. The average of hay is nearly one and a-half tons per acre.

DOGS AND BELL SHEEP.—An Indiana sheep farmer says, that a number of sheep wearing bells, in any flock, will keep away dogs—he would allow ten bell sheep to every hundred, or hundred and fifty. When sheep are alarmed, they run together in a compact body, in which act all the bells are rung at once, which frightens the dog, or makes him think some one is on his track—so he leaves without taking mutton.

MUSQUITT GRASS.—We are indebted to J. H. SINGLETON of Waxahachie, Ellis county, Texas, for a paper of the seed of this grass. He states that it grows there all winter, and affords as good grazing as their wheat and barley, and he thinks will make a fine hay. He wishes to procure turnip seed, and will exchange for it any of the floral or vegetable productions of Texas. Will not some of our correspondents undertake the exchange?

AMERICAN FARMER'S MAGAZINE.—In the June number of this work, Prof. J. A. NASH, who has been its editor and proprietor for some time, says in the course of a long article setting forth his reasons for the cause, "Exchanges will please direct no longer to the *Plow, Loom and Anvil*, or *American Farmers' Magazine*, as it will not be in our power to return the favor." We exceedingly regret this, as it has been a publication of ability and practical worth. The subscription list is transferred to the *American Agriculturist*, and Mr. NASH intimates that his pen may be recognized among the editorial contributions to that journal.

CHANGING PASTURES.—Remember that it is of the greatest importance at this season, that your sheep should be often changed from one pasture to another. If you have but one pasture, it would be better to divide it, and keep your flock in one part a week, and then change them to the other. This would be vastly better for the sheep, and would keep them healthy and in excellent order.

THE ROLLER ON CORN GROUND.—A writer in the *Prairie Farmer*, who used a roller for the first time the present season, is delighted with its effect on his corn ground. "Once rolling," he says, "puts the ground in better order than several times harrowing, for it crushes all the large lumps, so that when you come to mark, plow and hoe, the ground is level, and there are no lumps in the way."

TAN BARK FOR POTATOES.—This subject is brought before the farmers of England, by a communication in the *Mark Lane Express*. Mr. R. B. Bamford claims thirty-five years practice and experience in this matter; and has issued a pamphlet giving his method of using it, which is in brief the following: He does not cut his potatoes for setting, but sets them whole, and the largest he can select. The rows are thirty inches apart and the potatoes are put nine inches from each other in the row. The land is plowed only eight inches deep, treads the manure firmly in the furrows, puts in the tubers, and covers them in with tan refuse, nine inches deep, instead of earthing up. In this way he reports that in 1857, he raised 675 bushels of potatoes—not a rotten one among them—to the acre, with nothing but waste tan as a covering. This is of great importance, the tan refuse being of little or no value, and if it can be put to so important and advantageous a use as in this case, it should be widely known and practiced.

GOOD FLEECES OF SHEEP.—Mr. NORMAN BOTTOM of Shaftsbury, Vt., has one of the finest flocks of sheep to be found in the Green Mountain State. He has just sheared two hundred, the fleeces weighing from five to twelve pounds. He keeps the Merino breed, and I venture to say there cannot be found fleeces that average better or of finer quality. The secret of his success in the wool-growing department is, that he is careful in the selection of his sheep, and provides plenty for their subsistence. His farm in every respect is a model of order and convenience. G. W. *Williamstown, Mass.*

GLADDING'S HAY ELEVATOR.—In regard to this fork for pitching hay by horse-power, as described and illustrated on page 249, present vol. Co. GENT., JOHN JOHNSTON of Geneva, N. Y., writes as follows: "I have seen Gladding's Hay Elevator, or rather Horse Pitch-fork, in operation, and believe it will prove a wonderful labor-saving machine, especially in large barns, or for making stacks. I believe wherever tried, it will be found profitable for this purpose."

SALT UNDER BARNS INJURIOUS TO PIGS.—I had eight very nice pigs, of good size, and nearly nine weeks old, when they acquired a habit of crawling through the pen and roaming at large about the farm-buildings. Their attention seemed attracted to the ground under the barn—which had been built but four years. Most all day they would remain under the barn rooting in the salt ground, and it was with reluctance that they would come out to eat. They became sick, and I removed them to a close yard; but their bodies became lank and yellow. Four of them died, but the others after being sick a long while got better. I would warn farmers not to let their pigs run under barns, and root in the salt dirt contained there. C. MATHER. *Hartford, Conn.*

SOWING GRAIN.—With your permission I will give you my way of sowing grain, which I think has some advantages over the ordinary way. I sow grain all one way—that is, walk across the field and cast my grain with my right hand—then moving my stake three or four paces, walk back and cast my grain with my left hand. This may not seem to be so easily done, but let any one take a bushel of grain, and go on to the barn floor and cast the grain with his left hand, and he will

see that the thing is easily learned. I sow all my grain in this way, and generally get it on very even. Some of the advantages are as follows—the labor is not all performed with one hand. Grain can be sowed more even. It is desirable to sow grain with the wind. W. *Allegany Co, N. Y.*

WILSON'S ALBANY STRAWBERRY.—As we have just passed through, as I think, an extraordinarily good season for strawberries, I expected to hear from you some tall stories about this delicious fruit. Not having heard any as yet, I thought I would begin with my experience. In the spring of 1858, I purchased of Mr. Wm. Thorburn of you city, 50 plants of the Albany Wilson Seedling. I set them out in rather poorish sandy soil, and to my own shame gave the cultivation of the same sort, thereby losing either four or five plants. This season I have picked and measured one bushel or 32 quarts of of berries from them, and should think that at least three quarts more have been given away as samples, &c. The ground they occupied is 9 by 15 feet, measured with a tape line. At the same rate, an acre would yield 322 bushels and about 22 quarts. ALBERT VAN VOAST. *Pond Grove, Schenectady, July 12th.*

REFUSE OF TANNERIES AS MANURE.—At a late meeting of the Farmer's Club of Little Falls, the subject of using the refuse of tanneries, hair, fleshings, lime, &c., for agricultural purposes was discussed, and one member said he had used hair on grain and grass with the most marked effect. He had spread it thinly and harrowed in with spring wheat, and produced the best crop he had ever raised, or seen in the neighborhood. Upon grass its effects had been very distinct and lasting. Applied upon the top of an unproductive dry ridge of land, it had produced a very luxuriant growth, and without any other application, the dark green complexion of the sward had scarcely abated since 1847. On corn its application had not been so successful. It might have been owing to the manner of applying.

CURRANT WINE.—We publish in another part of this paper, a most excellent recipe for making Currant Wine. The communication was accompanied by two bottles of wine made after this recipe—one in 1857, and the other in 1858. The wine has been tried by several good judges, all of whom concur in pronouncing it a very superior article, and far better, as well as more wholesome than the wines to be procured at the shops under the various foreign names attached to the compounds sold for grape wines.

MILKING YOUNG COWS.—A recent agricultural writer has said that young cows, the first year they give milk, may be made with careful milking and good keeping, to give milk almost any length of time deemed desirable; but that if allowed to dry up early in the fall, they will, if they have a calf at the same season, dry up at the same time each succeeding year, and nothing but extra feed will prevent it, and that but for a short time.

CHUFA OR EARTH ALMOND.—This spring I took some pains to a procure a few Chufas or Earth Almonds—planted them in my garden, and took great pleasure in seeing them grow so finely, anticipating a valuable crop next fall. A few days ago a friend of mine wished me to examine his garden, and such a sight I never saw. Every inch of ground was filled with what he called "nut grass." I examined and compared both top and bottom with my Chufas, and found them to be one and the same thing. He has tried for the last three years with plow, hoe, fork, and rake, to clear the ground, but in vain, and has now given it up in despair. Should any of your readers wish for a sample of this pest, next fall I will gladly supply them free of charge. As for my own, the spade I hope has cleared my garden before it is too late. HENRY F. GIFFORD. *Falmouth, Mass.*

SORREL.—Sorrel hay should be cut the first of the season, and if you have any pieces of grass in which considerable sorrel is found, be sure and put your scythe into it at the first of your haying. There are several reasons for this: sorrel furnishes a great amount of seed, and if cut before it is perfectly ripe, the seed will be saved from the ground, and add value to the fodder. By cutting it early, its value is almost nearly doubled, and if properly cured, makes one of the best and most palatable fodders for sheep, of anything which your farm affords in the shape of hay. Do not neglect this until it is dead ripe, when the seed will be scattered on the ground, and the stalks make but poor food for stock.

MANAGEMENT OF OXEN—BACKING.—A scene often witnessed is described by a visitor at an Agricultural Fair. A trial of working oxen took place in which they drew well, but on attempting to back a heavy load, a sad want of training was manifest both in oxen and drivers. "Instead of the driver quietly giving them the word, the whip was generally applied without stint before the animals were prepared to answer the demand upon them, and in some cases even before the word was heard. What can a pair of oxen be expected to do, if at every second step, they are obliged to dodge a stroke of the lash applied about the head and face? Such management is entirely inconsistent with a strong, persistent effort, such as is required in the operation of backing a load."

STRAWBERRIES.—We have just got through with our strawberries, of which there is a great many raised in this county. There was as many as 90,000 half-pint baskets sent from Ramsey Station in one night, and the season lasts about 28 days. They were sent to New-York market, from whence they are sent to all parts, west, north and east, and sell for from one cent up to 3½ cents per basket. The kind we mostly grow are called the Scotch Runners and the Hautbois. J. T. *Ramsey, Bergen Co., N J.*

THE MILK BUSINESS.—Some idea may be formed of the extent of the milk business by the quantity which arrives in New-York daily through one channel. About 240 single and double wagons cross the Jersey City ferry every night for their supply of milk, which arrives principally by the New-York and Erie road. The wagons average 18 cans of 40 quarts each, making a total of 176,800 quarts. The freight upon milk on the N. Y. and Erie road amounts to about $1,000 per day.

IOWA FARMERS' COLLEGE.—We learn from the Muscatine Journal, that this institution has been located in Story county, thirty miles north of Des Moines city, and nine miles west of Nevada, the county seat of Story. The site is said to be one of the most beautiful to be found in the State. There are 640 acres of land purchased at a cost of $5,400.

ST. LAWRENCE CO. FAIR.—At the late annual meeting of the St. Lawrence Co. Ag. Society, Hon. CALVIN T. HULBARD was elected President, and GEO. C. BOGUE Treasurer, and L. E. B. WINSLOW, Secretary. The 28th, 29th and 30th of Sept. were fixed upon for holding the next Fair of the Society. L. E. B. W.

WHEAT CROP IN WESTERN NEW-YORK.—The *Rural New-Yorker* says that wheat in the western part of the State will be harvested the present week, and adds: The result, thus far, has been most favorable, where the proper conditions were observed as to varieties, soil, and time of seeding—except in localities where the wheat was affected by the severe June frost. Indeed, during the past ten days *we have seen as fine fields of wheat in this county as were grown before the appearance of the midge.* Many of these bid fair to produce from thirty to forty bushels of first quality wheat to the acre. Among others, we examined several fields of Dayton wheat, the product of seed brought from Ohio last fall by Capt. R. FLINN of Le Roy. It is a very fine variety—a whtie bald wheat, with short, stiff straw, and if it acclimates as well as the Mediterranean, will prove invaluable in this region. ELISHA HARMON, Esq., of Wheatland, has seventy acres of this variety, which we think will average at least thirty bushels to the acre. We are aware that "one swallow does not make a summer"—that the present season has been remarkably favorable for the growth and maturity of the wheat

plant—yet, from information obtained last season and this, from observation and reliable cultivators, we are satisfied that the former great staple of this section of the Union, can still be successfully and profitably cultivated.

THICK AND THIN SEEDING.—Mr. Mechi and some others in England, have taken the ground that thin seeding is the best for rich and highly cultivated lands. This may be true of winter wheat if sown early, but it does not apply well to all spring-sown grains. Oats, for instance, should be sown most thickly on the richest and best cultivated land, as when sown thinly they are more liable to fall before the wind or heavy rains, in which case they produce little or no grain.

THE BEST STRAWBERRIES.—At a late meeting of the New-York Farmer's Club, the strawberry question was again introduced, and the following report of the committee appointed at a previous meeting to report the best six varieties, was read, and, after a long discussion, was adopted almost unanimously. The committee consisted of five, of which G. W. HUNTSMEN was chairman:

1. Wilson's Albany—Its primary good qualities are: productiveness, size, and firm, juicy flesh. It is, however, too *acid* for the taste of many.
2. Longworth's Prolific—Early, large, and of excellent flavor; only moderately productive; sometimes running too much to leaf.
3. Hooker's Seedling—Good size; of a rich, sweet flavor; moderately productive (some say very productive.)
4. McAvoy's Superior—Productive, large, and of excellent flavor; berries often defective in form.
5. Hovey's Seedling—This variety is too well known to need any description. Its only defect is dryness and want of high flavor.
6. Burr's New Pine—Of exquisite flavor; medium size; only moderately productive; plants want vigor and hardiness.

## National and State Fairs for 1859.

UNITED STATES SOCIETY.

| | | |
|---|---|---|
| Exhibition, | Chicago, Ill., | September 12—17. |

STATES.

| | | |
|---|---|---|
| Alabama, | Montgomery, | November 15—18. |
| Canada West, | Kingston, | September 27—30. |
| California, | Sacramento, | Sept'ber 27—Oct. 6. |
| Connecticut, | New Haven, | October 11—14. |
| Georgia, | Atlanta, | October 24—28. |
| Illinois, | Freeport, | September 5—9. |
| Indiana, | New-Albany, | September 26—30. |
| Iowa, | Oskaloosa, | September 27—30. |
| Kentucky, | Lexington, | September 13—17 |
| Maine, | Augusta, | September 20—23. |
| Maryland, | Frederic City, | October 25—28. |
| Michigan, | Detroit, | October 4—7. |
| Missouri, | St. Louis, | Sept'ber 26—Oct. 1. |
| New Hampshire, | Dover, | October 5—7. |
| New-Jersey, | Elizabeth, | September 13—16. |
| New-York, | Albany, | October 4—7. |
| Nebraska Territory, | Nebraska City, | September 21—23. |
| Ohio, | Zanesville, | September 20—23. |
| Pennsylvania, | Philadelphia, | September 27—30. |
| South Carolina, | Columbia, | November 8—11. |
| Tennessee, | Nashville, | October 5—7. |
| Vermont, | Burlington, | September 13—16. |
| Wisconsin, | Milwaukie, | September 26—30. |

## Recipe for Elderberry Wine.

MESSRS. EDS.—As the season for making Elderberry Wine is fast approaching, I would give, through your columns, an excellent recipe for making it.

The berries, when ripe, are first picked by the stems, then stript with the hand, or trimmed close with shears. Next they are mashed fine, which can be done by means of a stick in the form of a pestle. Let them remain until the next day, when the juice is pressed out slowly in a cheese press, or any other convenient way. Next boil the juices "twenty minutes;" skim it, and add four lbs. white sugar to a gallon. When milk warm, add a small piece of white bread crust that has been dipped in yeast. Let it stand three days, remove the crust, and the wine is ready for bottling. Age improves it. Mrs. M. E. C.

P. S.—In the article on cheese making, page 19, instead of rock salt, it should have been "blown salt."—*Warner, N. H.*

## Saving Seed Corn.

Good seed is as important to insure the farmer a crop, as good soil and thorough cultivation. Without the latter he cannot expect a large crop; and without the former he can expect to have none. The proper saving of good seed, therefore, is a matter of considerable importance, and at once becomes an object of attention and regard.

The frost, which was so severe in most parts of the country this season,—and which will be remembered as the "Great June Frost of '59,"—damaged the growing corn a great deal; but it is now starting up again, and if we have favorable weather during the present month and August, with two weeks of good weather in September, we shall yet have a crop of corn. With this prospect in view, a word on the proper mode of saving corn for seed may be in place.

We believe it is a general practice for farmers, when they are husking, to save out the best and largest ears for seed. This will do very well, but the better plan is, and one by which the corn will be forwarded several days earlier, to save it in the field. Our plan has been for several years, to go over the fields when the first ears begin to be glazed, and then gather those that look the most forward, and seem to be the best filled out. If they are not fully ripe, it will be just as good, by hanging the ears in a place where they will thoroughly dry; and many farmers have assured us of the superiority of the seed thus gathered. We would recommend this as the best method for farmers to save their seed corn.

It is also a good plan to save more than what is wanted for your own use in one year—for if the crop should fail to fully mature for seed, as it does some years—there would be a use for what you did not use the year before.

Speaking of corn:—an experienced and careful farmer once said to the writer, that it was his practice to plant the whole of the corn on an ear. We asked his explanation, and he said: "You know some farmers always shell off the corn from the tip end of the cob when planting, which they throw aside. I used to do so, but have learned better. When I followed that plan, my corn was not well filled, but every cob had a *snout* one or two inches long. Since I have planted all together, it is well filled out, and every ear is plump and full. I cannot explain it, but it *is so*."

Have any of our readers ever noticed this?

## Deep Culture a Means of Warming the Soil.

A correspondent of the *Mark Lane Express* furnishes an able article upon this subject, from which we make the following extract:

"We all know that heat and moisture are the two elements of decomposition and rapid growth, as shown in tropical countries. Deep and loose cultivation tends to this result. Possibly the action of light may also be important. One cause of the rapid growth of market-garden vegetation, is depth of cultivation, combined with the subterranean heat of the decomposing manure; and wherever there is heat, moisture is attracted. The necessity for a more perfect cultivation is obvious; even on a fallow you may pick up small, hard knobs or clods, which on breaking into fragments, exhibit a little treasure of unexplored and unavailed of territory, confirming the great JETHRO TULL'S principle of infinitessimability in cultivation. I have great faith in the use of Croskill's clod-crusher in very dry weather, for the breaking of obstinate clods."

FEED MILLS of the Colman, Ross' Burr Stone, and other styles, for sale at Agricultural Depot, 100 Murray-st., New-York. HENRY F. DIBBLEE.

EVERY FARMER SHOULD OWN AND READ "PLAIN AND PLEASANT TALK ABOUT FRUIT, FLOWERS AND FARMING." IT GIVES VALUABLE INFORMATION ABOUT THE SUCCESSFUL CULTIVATION OF WHEAT, CORN, RYE, OATS, FRUITS AND FRUIT TREES, &C. THE PROPER MANAGEMENT OF CATTLE—A LIST OF CHOICE SEEDS, FRUITS AND FLOWERS. HOW TO TRANSPLANT AND PRUNE TREES AND VINES, GRAFTING, &C. FULL INFORMATION ABOUT BLIGHT AND INSECTS, &C., &C., &C.

"PLAIN AND PLEASANT TALK ABOUT FRUITS, FLOWERS AND FARMING," WRITTEN BY HENRY WARD BEECHER, WHO TO HIS ALREADY RENOWNED REPUTATION AS A PREACHER, ORATOR AND AUTHOR, MUST NOW BE ADDED THAT OF A PRACTICAL FARMER AND GARDENER—FOR SUCH HE IS AND HAS BEEN. 1 VOLUME, PRICE $1.25. FOR SALE BY ALL BOOKSELLERS AND AGENTS, OR SENT BY MAIL, POST-PAID, ON RECEIPT OF THE PRICE, BY

DERBY & JACKSON,
July 14—w&m1t. Publishers, New-York.

HORSE POWERS, Threshers, Saw-Mills, Fan-Mills' &c., for sale at Agricultural Depot, 100 Murray-st. New-York. HENRY F. DIBBLEE.

PRINCE'S STRAWBERRY CATALOGUE.—The 44th Edition is now ready with Descriptions of 142 Select Varieties, and directions for culture. Applicants by mail enclosing 10 cents in stamps, will receive a copy. The New Catalogue of 150 varieties of Native Grapes, and Pæonies, both Tree and Herbaceous, Dahlias, &c., will soon be ready, and will be sent on the same terms. WM. R. PRINCE & CO., Flushing,
July 21—w&m1t. New-York.

EXCELSIOR SEEDLING STRAWBERRY. The subscriber has a Strawberry he has been cultivating for several seasons, to which, from its many good qualities, he has concluded to give the above name. The plants are very strong growers, perfectly hardy, standing our winter's cold and summer's heat without any protection. Fruit very large, bright scarlet red, emitting a delightful aromatic odor, with a mild, delicious pine apple flavor; firm flesh, sufficiently so to bear transportation 500 miles to market—a good bearer, surpassing any other berry for profit I know of. I sold my crop of them this year readily for 25 cents per quart, at home. I have a few thousand plants I have concluded to offer for sale this fall, at a fair living price, say $3.00 per hundred, $20 per thousand, for cash with the order. Address

O. HEFFRON,
July 14—weow3tm1t. South Salem, Ross Co., Ohio.

"The Best in the World."

OUR EXCELSIOR HORSE POWERS, THRESHERS, and THRESHERS & CLEANERS Combined, CIDER AND SAW MILLS, &c., are acknowledged second to no others, and have been awarded the highest testimonials where they have been exhibited. We have manufactured them for the last 6 years, and they are warranted to perform satisfactorily in every respect.

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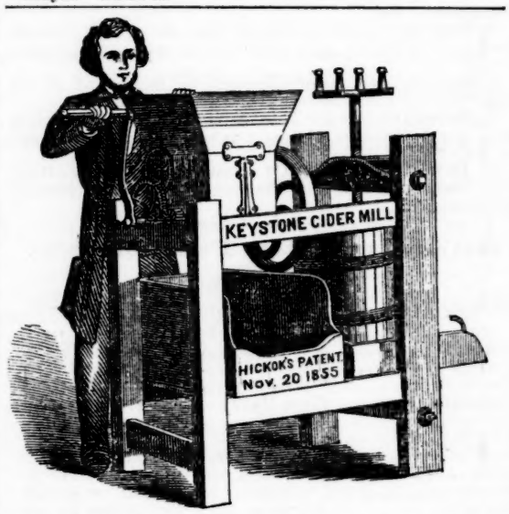
May26—w&m tf.

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This sterling machine, which from the test of several years has proved itself superior in point of simplicity and efficiency to anything in the market, is now ready for the apple harvest of 1859.

It is made if possible better than ever, and where there are no agents farmers will do well to send to the manufactory early for a circular. We also make large iron press screws from 3 inch diameter and 4 feet long, to six inch diameter and 8 feet long, at reasonable prices. Address

W. O. HICKOK, Eagle Works,
July 21—w14m3t. Harrisburgh, Pa.

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March 10, 1859—w&m9ms

STRAW AND STALK CUTTERS for hand or horse power, for sale at Agricultural Depot, 100 Murray st., New-York. HENRY F. DIBBLEE.

HAY AND GRAIN PROTECTORS. The subscribers have for four years, by extensive correspondence, by practical observation, and by many experiments, endeavored to obtain information that would be a guide to the manufacture of the best *Hay and Grain Covers*, and we now offer the results of these investigations to the public. *We know* that our Protectors are the best ever offered to the community. As to the utility of the covers, we have the testimony of intelligent farmers in every part of our country.

Orders for samples or covers should be forwarded at once. CHASES & FAY,
May5—weow2tw8tm3t 233 State street, Boston, Mass.

GUANO!—The superiority of Phosphatic over Ammoniacal Fertilizers in restoring fertility to worn out lands, is now well understood. The subscribers call the attention of Farmers to the *Swan Island Guano*, which, for richness in *phosphates* and *organic* matter, and its *solubility*, is unsurpassed.

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Circulars, with directions for use, may be had on application at our office. FOSTER & STEPHENSON,
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June 26—w26tm6t

LAWTON BLACKBERRY.—To obtain the original variety for field or garden culture, address WM. LAWTON, New Rochelle, N. Y.

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BERKSHIRE PIGS.—I have now another choice lot for sale—$5 at 6 weeks.
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HINTS TO HORSE KEEPERS: A Complete Manual for Horsemen; embracing how to breed, buy, break, use, feed, physic, groom, drive and ride a Horse, together with a chapter on Mules and Ponies. By the late Henry William Herbert (Frank Forester.) Beautifully illustrated. Price $1.25.

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ESSAY ON THE ORIGIN, HISTORY AND CHARACTERISTICS OF MORGAN HORSES.
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PRATT'S PATENT SELF-VENTILATING
COVERED MILK-PAN.

This is an enclosed milk pan, so arranged as to secure the supply and circulation of air required for the separation and rising of the cream. By reference to the engraving, it will be seen that the pan has a cover; around the lower rim of this cover are several minute perforations, for the air to enter, and at the top of the chimney, (as it may be called,) which rises from the centre of the cover, is another series of perforations for the air to escape. When new milk is placed in this pan, the colder external air presses in through the lower range of perforations in the cover, and forces the warm air out through the perforations above, thus producing the required circulation. This circulation of air will diminish, as the cooling process goes on, but not cease; for, gases being evolved in the production of cream, their lightness will still cause the air to draw in through the lower perforations, and so continue the process of ventilation.

The value of this new milk-pan will be at once apparent. Dairymen often have great difficulty in protecting their open pans from gnats, flies, rats, mice, snails, lizards, &c., &c.; and they cannot cover them, because, if the air is shut out, the cream will not separate from the milk.

But not alone to dairymen is the invention of value. In every family milk is used; and with one or more of these self-ventilating pans, the best condition for raising cream is secured. Covered, and set upon a shelf, or the cellar floor, the pan is entirely free from molestation. During the time that the patent was pending, in 1858, this Milk-pan was exhibited at the U. S. Agricultural Fair, held in Richmond, Va.; at the Pennsylvania State Fair, held at Pittsburgh; and at the New Hampshire State Fair, held at Dover. In each case DIPLOMAS were awarded.

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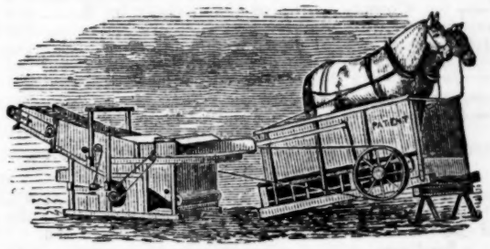

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The attention of the public is respectfully invited to the Machinery manufactured by us, consisting of Improved Endless Chain Horse Powers, for one, two, and three horses; Lever Powers for from four to eight horses; Combined Threshers and Winnowers, Threshers with Vibrating Separators, Clover Machines, Wood Saws, &c. Our machines have been long before the public, and have, almost without exception, given entire satisfaction to those who have used them.

We have lately improved the Vibrating Separator by making it in two parts, and driving it by a double crank, so that the parts move in opposite directions, and counterbalancing each other, so that the violent jerking made by use of a single crank, is avoided. These will be furnished only by special order, and at an increased cost over the other kind, when attached to the Thresher, of five dollars. We will send our circular containing price list and full descriptions of our machines, upon application; and will pay prompt attention to orders and correspondence.

G. WESTINGHOUSE & CO.,
June 30—w4tm3t. Schenectaday, N. Y.

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Of all kinds, for sale at the Office of the Co. Gentleman

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## Annual Register for 1860.

The sixth number of this work is in press, and we wish now to say a word to our advertising friends. The number of pages devoted to advertisements being somewhat limited, many applications have each year reached us too late for insertion, and it is on this account, as well as in order that the work may be completed as early as practicable, that those who wish for space in this department should send in their advertisements immediately. Prices as in previous numbers: One page, twenty dollars; one-half page, twelve dollars; one-third page, eight dollars; business cards from one to five dollars. Advertisements will be handsomely displayed, according to the room they are expected to occupy.

## List of Nurseries.

A Supplement to the List of Nurseries in the United States, published in the ILLUSTRATED ANNUAL REGISTER for 1859, will be given in that for 1860; and all nurserymen who may have received the list, are requested to forward immediately to J. J. THOMAS, *Union Springs, Cayuga Co., N. Y.*, any important additions or alterations which may be required.

Nurserymen or others, who may know of any omissions, either of old or new nurseries, or discontinuances or changes, in that list, would confer an especial favor by furnishing immediately the desired information and corrections, with the estimated number of acres occupied by each, if known—which is to embrace the number of acres actually under growing nursery trees, and not the extent of land devoted to this purpose or intended to be occupied. Very small, imperfect or unimportant nurseries need not be included.

All who furnish valuable information will be supplied with a copy of the new Register.


BYRAM'S excellent Potato Digger—Pays for itself in digging four acres. For sale at Agricultural Depot, 100 Murray-st., New York. HENRY F. DIBBLEE.

PERUVIAN GUANO, Government brand.
SUPERPHOSPHATE OF LIME,
BONE DUST.
For sale by A. LONGETT, 34 Cliff-st., New-York.
Aug. 1—m2t.

KNOX'S Steel Horse Hoe, Carrot Weeders, &c., for sale at Agricultural Depot, 100 Murray-st., New-York. HENRY F. DIBBLEE.

SOUTH-DOWNS.—J. C. TAYLORS' 9th Annual Sale of South-Down Lambs, will be held on the farm of J. G. SMOCK, near Holmdel, on Thursday, Sept. 8th. Lambs all sired by "WORLD'S PRIZE," (the $2000 ram.) For particulars, please send to me for circulars at Holmdel, N. J. J. C. TAYLOR Aug. 1—m1t

MAPES' Celebrated One-Horse Steel Subsoil Plows for sale at Agricultural Depot, 100 Murray-st., New-York HENRY F. DIBBLEE.

DEVON CATTLE FOR SALE.
I now offer for sale "Mammon," 3 years old, bred by R. H Van Rensselaer, Esq., of Otsego Co., N. Y., from imported stock; is of good size, perfectly kind, and has proved himself a sure and superior stock getter.

"Young Metropolitan," 1 year old, bred by Joseph Juliand, 2d, of Bainbridge, N. Y.

"Moss Rose," 3 years old, bred by Joseph Juliand, 2d; now in calf to "Metropolitan," a bull recently sold by me to Joseph Cooper, Esq, near Cincinnati, Ohio.

Also fifteen superior, high grade heifers, from 1 to 4 years old. They are mostly got by "Metropolitan" from grade cows, and are now in calf to "Mammon." Nearly every animal offered has taken from one to six prizes at our State, County and other Society Fairs.

If applied for soon, they will be sold upon reasonable terms. JOHN BANKS.
Bainbridge, N. Y., July 28—w2tmtf.

PERUVIAN GUANO, Phosphate, Poudrette, &c., for sale at Agricultural Depot, 100 Murray-st., New-York.
Aug. 1—m1t HENRY F. DIBBLEE

PORTABLE CIDER MILLS AND PRESSES combined, for sale at Agricultural Depot, 100 Murray-st., New York. HENRY F. DIBBLEE.

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